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A Millian heir accepts the wages of *Sinn*

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Education

2018	Ph.D. in Philosophy (Expected), University of California, Santa Barbara.
2015	C. Phil. in Philosophy, University of California, Santa Barbara.
2015	M.A. in Philosophy, University of California, Santa Barbara.
2010	M.A. in Philosophy, Federal University of Rio de Janeiro.
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Professional Employment

2013–18	Teaching Assistant, Department of Philosophy, University of California, Santa Barbara.
Summer 2016	Phil 3: Critical Thinking Instructor, Department of Philosophy, University of California, Santa Barbara.
Summer 2011–12	Logic Instructor, Department of Philosophy, Federal University of Paraná.
Spring 2007	Logic Teaching Assistant, Department of Philosophy, Federal University of Paraná.

Publications

2018	'Indexicality and Action: Why We Need Indexical Beliefs to Motivate Intentional Actions', Inquiry (forthcoming).
2016	'Frege's Puzzle' (original title: 'O Enigma de Frege'), Revista Fundamento, v. 1, n. 12, pp. 39-73.
2014	Herman Cappelen, Josh Dever, *The Inessential Indexical*, Polish Journal of Philosophy, v. VIII, n. 2, pp. 77-80 (book review).

2010 'Can Demonstratives Not have Senses?' (original title: 'Podem Demonstrativos Não ter Sentido?'), Ítaca (UFRJ), v.15, pp. 382-93.

2009 'Unarticulated Constituents: A Reply to Cappelen and Lepore' (original title: 'Constituintes Inarticulados: Uma Resposta a Cappelen e Lepore'), Ítaca (UFRJ), v.11, pp. 145-50.

Scholarships

2012-2018 *R.W. Church Scholarship.* Awarded by UC Santa Barbara Philosophy Department.

2007-2008 Coordenação de Aperfeiçoamento Pessoal de Nível Superior (CAPES). Awarded by Federal University of Rio de Janeiro.

Presentations

2017 'Thinking (Really) Selflessly', Workshop: What is the Problem of First-Person Thought?, Univeristy of Barcelona, Spain.

2017 'Thinking Selflessly', Graduate Philosophy Colloquium, University of California at Santa Barbara, United States.

2015 'Neither *De Dicto* nor *De Re*: Indexical beliefs are *Sui Generis*, Federal University of Paraná, Brazil.

2010 'Can Demonstratives Not Have Sense?' (original title: 'Podem Demonstrativos Não ter sentido?'), Encontro National de Pós-Graduação em Filosofia, Brazil.

2009 'The Semantic of Indexicals' (original title: 'A Semântica dos Indexicais'), Portuguese Society for Analytic Philosophy, Portugal.

2009 'The Semantic of Indexicals' (original title: 'Semântica dos Indexicais'), Graduate Philosophy Conference, Federal University of Rio de Janeiro, Brazil.

2008 'Binding Argument: A Reply to Cappelen and Lepore' (original title: Binding Argument: Uma Resposta a Cap-

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Abstract

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Propositions have been traditionally taken to play different roles in philosophy of language, most prominently as the meaning of (utterances of) sentences, what determines their truth-value, and the content of cognitive attitudes, like beliefs, desires, etc. In this dissertation I challenge this view. More specifically, I argue that the semantic and cognitive content of proper names are different contents, and offer an alternative theory about their relation.

A first motivation to rethink the relationship between semantic and cognitive content of names is that at first sight, the most well develop theories of the meaning of proper names have *prima facie* claim over mutually exclusive group of intuitions. The Millian Theory, according to which the meaning of a proper names is only its referent, explains well intuitions related the meaning and truth-value of (simple) sentences with proper names in the subject position but fails to offer a suitable candidate for the content of cognitive attitudes. In contrast, the Fregean Theory, according to which the meaning of a proper name is a mode of presentation of its referent, seems unable to account for the meaning and truth-value of (simple) sentences with proper names but correctly captures an aspect of proper names related to their cognitive content.

I further argue that we have not been offered good reasons that semantic

and cognitive content are the same contents. Most common arguments rely on, as I argue, the false claim that we cannot explain the validity of certain inferences and the truth-conditions of belief ascriptions unless semantic and cognitive content are the same. In light of that, I developed a theory of the semantic and cognitive content of proper names which treats them as different contents. I then argue that it offers a good account of puzzles about belief and belief ascriptions, like Frege's Puzzle, among others. One of the most noteworthy aspect of the the proposed theory is its treatment of belief ascriptions that differ only with respect to the name in the 'that'-clause. In my view, we can account for possible difference in their truth-value and explanatory power in action-explanation without relying on claims about pragmatics of belief ascriptions while at the same keeping the belief-relation a binary relation, and the semantic content of co-referential names the same.

Contents

Chapter 1

Introduction

Propositions have been in the center of the discussion since John Stuart Mill and Gottlob Frege marked the beginning of philosophy of language as is known nowadays. There is, we can say, little agreement on which kind of content a proposition is. However, surprisingly, philosophers seem to agree (with a few subverts) that propositions serve (at least) five distinct roles: the meaning of (utterances) of sentences, the meaning preserved in translations, what determines the truth-value of sentences in the actual and alternative worlds, and the content of mental states like beliefs, desires, intentions, and others.

In the search of such a multitasking entity, philosophers of a certain tradition agree that propositions are structured entities, that is, complex entities made up of parts tied up together in a certain way. However, when it comes to a discussion about the proposition expressed by sentences with a proper name in the subject position, chaos ensue. On one camp, we have Millians, according to whom the propositional contribution of a proper name is only the

object it refers to. On the other camp, we have Fregeans, according to whom the propositional contribution if a proper name is a mode of presentation of the object to which it refers.

The lack of agreement between philosophers in these two camps comes from, in part, because each view has advantages. The theory espoused by Millians offers an account of proposition expressed by sentences with a proper name in the subject position that does a stunning job at determining the truth-value of sentences in the actual and alternative worlds. However, despite Millians's protests, their proposal seems to fail miserably when it comes to offering the content of mental states because we have good evidence that the content of mental states are more fine-grained than what we get from Millians proposal. As a matter of fact, they seem to be as fine-grained as Fregeans propose. The problem with Fregeans's proposal is that such a fine-grained content does a terrible job at determining the truth-value of sentences, again, despite their protests.

In light of the success and failure of the Millian and the Fregean Theories in their proposal of what looks like an entity that serve all five roles, I suggest that we take a step back and contemplate what we have: a good account of the first four roles and of the fifth role, as long as their are played by different contents. In this dissertation, I propose we revise the assumption that one entity should serve all five roles. In accordance with this idea, I develop a theory that treats the semantic and the mental content as different contents. Though I do not offer an in depth account of what a cognitive content is, I offer an account of the bridge between them that, if I am right, accounts for

the puzzles we find in the literature.

As for the structure of this dissertation, in Chapter II I explain in details an initial motivation to give up the assumption that only one entity should serve the five roles. In Chapter II, I discuss two possible arguments for the claim that only one content should determine the truth-value of a sentence and be the content of the mental states related to it. I also explain why I dislike some ways of patching the Millian Theory so that the semantic content of the names also work as its mental content. Chapter 4 is where I develop my proposal in details. I lay out the basic thesis that make up the theory I want to endorse, explain who to connect the semantic and the mental content, in addition to offering an account of the truth-value of belief ascriptions, and an explanation of the most famous puzzles of belief ascriptions. At the end, I address four possible objections to my proposal.

Chapter 2

Preliminaries

In this first chapter I want to offer some initial motivation for my project of dissociating the *semantic* from the *cognitive* content. In order to give the reader some familiar ground to make my own proposal more palatable, I begin by laying out the roles two most prominent *traditional* theories in philosophy of language – the *Fregean* and the *Millian* theories – ascribe to propositions. With this framework, I explain the problems they face and will propose a division of these roles into two groups: *semantic intuitions*, and *cognitive intuition*. The division will then gives us *prima facie* reasons to rethink the notion of proposition.

2.1 What are propositions? – Part I

King [64] has offered a comprehensive list of the *roles* abstract entities commonly referred to by 'propositions' are expected to play in two well-known semantic theories available: the *Fregean* and the *Millian* theories, to be ex-

plained shortly. The roles they are supposed to play come from intuitions we have about language, truth-value, modality, among others. So for each of these roles there are intuitions that are supposed to be explained by propositions.

The first role is to be the pieces of information *encoded* by (utterances of) sentences. There is an intuition that (1) and (2) below encode different pieces of information:

(1) Aristotle was born in Stagira.

(2) Superman flies.

A competent speaker may express different pieces of information when using (1) and (2); and one who understands the sentences will grasp different pieces of information. The piece of information intuitively encoded by sentences is often said to be a *proposition*.

The second role often ascribe to proposition is to be the piece of information *preserved* in translations. (1) is a sentence in English and is ordinarily taken to be properly translated into Portuguese by the sentence, presumably, because they have the same meaning:

(3) Aristóteles nasceu em Estagira.

The meaning preserved in translations is often said to be a *proposition*.[1]

[1]Note that not all cases of what is commonly called 'translation' intend to preserve the meaning. In some situations a translation of the overall intention of the original speaker might be enough to count as a translation – as when I quickly translate something I have heard in English to my friends who only speak Portuguese. That some translations are not meaning preserving is not a problem for those who endorse this second role of propositions. What they need is only that some translations are proper translations in virtue of preserving the meaning, and that seems true.

Third, there is the role of *determining* whether a sentence is true or false. Presumably, (1) is true in virtue of its content being an true (accurate) representation of how things happened. In this way, *propositions* are the content expressed by sentences that explain their intuitive truth-value.

In philosophical discussions we often times talk about the truth-value of a sentence in different worlds. A world is a way things might have been. For instance, in the *actual* world – the way things actually are – Aristotle was born in Stagira, was the teacher of Alexander, the Great, is the author of *De Anima*, etc. But things might have gone differently, and Aristotle could have been born in the nearby city of Olympia, mastered the arts of plumbing and was never interested in philosophy. We can further suppose, Arimnestus, Aristotle's brother, accomplished everything we attribute to Aristotle in the actual world and was born in Stagira. Call this world 'w_1'. In the same way we talk about a sentence being true in the actual world, we can talk about it being true in a different world. For instance, (1) is intuitively true in the actual world but false in w_1. As with the third role, *propositions* plays the roles of *determining* the truth-value of sentences in alternative worlds.

We have beliefs, desires, intentions, etc, all of which have contents – I will call them 'cognitive attitudes'. For instance, among the beliefs I have, one of them is that two plus two equals four and another is that Aristotle was born in Stagira. Presumably, these beliefs differ from each other in some respect. For instance, one belief is about two plus two equaling four and the other is about Aristotle being born in Stagira. Additionally, if folk-psychology is right, the former but not the latter offers part of my motivation to give a cashier $4

dollars to pay for two coffee bags that cost $2 each (together with my desire to pay the right price, among other things). More often than not, this difference between theses beliefs is cashed out in terms of a difference in their *contents*, and they are is usually taken to be a *proposition*. This is their fifth role.

The last two roles King pins on propositions are far less intuitive the ones previously mentioned, which is why I will leave them aside. One is that propositions are also the content of (some of) our perceptual experiences. The idea is that the content of our perceptual experiences have veridicality conditions very similar to the truth-conditions propositions have. Some philosophers then treat them as being the same. The other is the role of propositions as part of the definition of (possible) worlds: (possible) worlds are defined as a consistent sets of *propositions*.

So, according to what I will call 'Traditional Theories', a *proposition* is the content encoded by sentences, preserved in (proper) translations, what determines the truth-value of sentences in the actual and alternative worlds, and is the content of beliefs, desires, etc. These roles played by propositions reveal one of their metaphysical aspects. There is another relevant metaphysical aspect of propositions about its nature, that is, the kind of content that constitutes a proposition. The pursue of such an account of proposition that plays the first five roles and, consequently, unifies the intuitions behind them is one of the main endeavors undertaken by philosophers of language.

The question about what kind of content a proposition is is itself too broad and complex to be addressed here, so I need to narrow down the discussion. First, my focus will be on two theories according to which propositions are

abstract structured entities we get by principles of compositionality. That is to say, a proposition is a complex abstract entity, with its constituents tied together in a certain way (usually indicated by the syntactical form of the sentence that expresses it). For instance, the sentence 'Aristotle was born in Stagira' is a complex linguistic entity the constituents of which are the name'Aristotle' and the predicate 'to be born in Stagira'[2]. Similarly, according to this view, the proposition it expresses is a complex entity the constituents of which are the propositional contribution of 'Aristotle' and of the predicate 'to be born in Stagira', combined according to principles of compositionality. This will leave out of the discussion theories according to which propositions are sets of possible worlds, for instance.

Second, I will narrow down the discussion even more to the propositional contribution of proper names like 'Aristotle'. The reason for that is purely practical. When we talk the problems theories have in finding a suitable entity to play the five roles mentioned about, the theories that come are about the propositional contribution of proper names, most likely because the most prominent exposition of the problem was made by Frege [26] and centers around proper names. This does not mean that theories about the propositional contribution of other linguistic expressions – like indexicals (as known as deictic, like 'I', 'he', 'now', 'this', 'that' etc.), predicates (like 'to be born in Stagira', 'to be wise', etc.), nouns (like 'fortnight', etc.), etc. – do not have similar problems. It is well-known that they do, and I will mention them in

[2]I will be ignoring issues about tense throughout this dissertation.

some occasions.

Finally, by listing the roles propositions are supposed to play I do not mean to imply that they are uncontroversially accept for everyone. Many philosophers have argues that, for instance, there does not need to be something that is common to (1) and (3) to explain why they translate each other. According to this line of reasoning, an account of the nature of propositions does not need to take this role into consideration. While I do not deny that such arguments are relevant, I offered the list of roles propositions are supposed to play in an uncontroversial way because they are accepted by the theories I will consider.

2.2 What are Propositions? – Part II

Although there are several different Traditional Theories of the propositional contribution of proper names, they can be generally classified as *Fregean* or *Millian* theories, named after Frege and Mill, respectively. In this section I will explain what I will refer to by 'the *Fregean* theory' and 'the *Millian* theory' throughout this work, and explain the *prima facie* problems they face, without going into possible replies – which will be surveyed in Chapter II. Note that I do not claim or intend to argue that Frege or Mill actually endorse the theories as characterized here. As a matter of fact, the theories as I will define here is not spelled out in enough details to ascribe it to one philosopher or other. This is on purpose so the labels 'Fregean theory' and 'Millian theory' can be used to refer to different theories that are similar in the relevant aspect for the discussion here. Whenever my remarks or objections depend details of

a particular theory, I will make it clear.

Fregean and Millian Theories are *Traditional* in the sense that their aim is to provide us with the propositional contribution of names that can play the five roles alluded to before. Interestingly, arguments in favor or against them usually rely on how well their account fulfill the five roles and accommodates our intuitions. Let me start with the Millian Theory.

2.2.1 The Millian Theory

The label 'Millian theory' refers to a cluster of theories which are similar to a theory proposed by Mill at least regarding proper names. These theories endorse the following thesis:[3]

(T1) The semantic content of a sentence of the form ⌜Fa⌝, such that ⌜a⌝ is a proper name and ⌜F⌝ is a predicate, is the *proposition* semantically expressed by the sentence.

(T2) The semantic content of a sentence of the form ⌜Fa⌝ is a structured entity determined by the semantic content of its *basic expressions*, namely, ⌜a⌝ and ⌜F⌝, and principles of compositionality.

(T3) The cognitive content of a belief is the semantic content expressed by a sentence that expresses the belief.

[3]Corner quotes ('⌜' and '⌝') enclose variables that range over sentences, which throughout this dissertation are represented by expressions within quotation marks.

(T4) The semantic content of a *proper name* is its referent.

(T5) The semantic content of a predicate is a property.

(T1) introduces a new piece of terminology. For reasons that will become clear later, I will reserve the term 'proposition' and 'propositional contribution' to refer to the semantic content of sentences and basic expressions, respectively, only in theories that endorse (T3), that is, that say that the cognitive content is the semantic content. In this way, the terms 'semantic content' and 'cognitive content' are neutral terms to refer to the content of linguistic expression and the content of cognitive attitudes, like beliefs, respectively.

In (T2), 'basic expressions' refer to the smallest meaningful expressions of language; or the "building blocks" of a language. Proper names and predicates are just one kind, but there are others, like the aforementioned indexicals, nouns, and others. 'Principles of compositionality' here refer to how we tie together the semantic contribution of the basic expressions. A principle of compositionality is an important element of the Millian Theory because it distinguishes the semantic content of sentences with the same basic expressions, like 'Aristotle loves Superman' ans 'Superman loves Aristotle'. The sentences say something different that it is hard to capture by appealing to a difference in the semantic contribution of its basic expressions. However important, principles of compositionality will not be relevant to my arguments and objections, unless otherwise noted. So an intuitive grasp of it is enough: principles of compositionality organize the semantic content of basic expressions in a way that distinguishes the semantic content of complex expressions that have the same basic expressions, like the sentences mentioned before.

As I have stated before, this dissertation will mostly center around proper names. However, indexicals will come in handy sometimes. In those cases, (T4) can be extended to them fairly easily – the semantic content of an indexical in a context of use is the object it refers to in that context. For instance, the semantic content of 'I' when uttered by Mary is Mary herself.

I add (T5) so we can have the bare minimum to discuss the semantic and cognitive content of simple sentences like ⌜Fa⌝. (T5) is consistent with Millian Theories, but it should be highlighted that not all versions of Millianism endorse it. Moreover, the argument and objections I develop here do not depend on it, since they will be about proper names. Those readers annoyed by it are welcome to replace (T5) for their favorite thesis on the semantic content of predicates.

(T3) introduces a new technical expression, 'cognitive content'. For the moment we can think of 'cognitive content' as different name for the content of a belief – a later discussion in Section 3.3 will reveal that they might not be synonymous after all. The thesis is, perhaps, the most important thesis of all, since it states the relationship between semantic and cognitive content for Millians, which I reject.

Let me go over an example to illustrate what the Millian Theory claims. Consider sentence (2):

(2) Superman flies.

'Superman' is a proper name that refers to Superman.[4] According to (T4),

[4]Throughout the dissertation I will consider Superman stories as if they actually hap-

its semantic content is Superman himself, instead of some concept or way of thinking of him, which will be represented as '*Superman*'. Following (T5), the semantic content of the predicate 'to fly' is the property of flying, which will be represented by '*to fly*'. Finally, we get the semantic content of (2) by (T2), which is determined by the semantic contribution of the basics expressions. The semantic content of a sentence is commonly represented by an ordered pair of the semantic contribution of the basic parts within pointy brackets, as in <*Superman*, *to fly*>.

The Millian theory is a very simple and straightforward theory, and it seems to deal pretty well with most of the intuitions laid out in the previous section. First, according to it, the piece of information encoded by (1) and (2) are different, as it should be. The former express the semantic about Aristotle and the property of being born in Stagira – <*Aristotle*, *to be born in Stagira*>, such that '*Aristotle*' and '*to be born in Stagira*' stands for Aristotle himself and the property of being born in Stagira, respectively – whereas the latter express a content about Superman and the property of flying – <*Superman*, *to fly*>.[5]

The theory also explains why (1) and (3) are considered (proper) translations of each other. According to the Millian Theory, they express the same semantic content, namely, <*Aristotle*, *to be born in Stagira*>. This is no surprise, of course, since the semantic contribution of a name is only its referent, and 'Aristotle' and 'Aristóteles' refer to the same person. Therefore, as long

pened to avoid unrelated issues with empty names. See Kripke [36, 37].

[5]See discussion about the semantic content of predicates on page 12.

as the translation of names preserve reference, the semantic content of the sentences is also preserved.

The Millian theory also explains very well our intuitions about what is true or false, at least of simple sentences. Intuitively, the truth-value of the semantic content of (1) depends only to whether Aristotle has the property of being born in Stagira.[6] Thus, having only Aristotle and the property of being born in Stagira as the semantic content of (1) captures well the elements on which the truth-value of the sentence depends.

One of the most compelling reasons one might have to endorse the Millian theory is related with intuitions about the truth-value of sentences in different worlds, the fourth intuition. As I explained, (1) is true at the actual world but false in w_1 where he was born in Olympia. We changed a lot of Aristotle's properties in w_1, and we even ascribed to another person, Arimnestus, all the properties commonly ascribed to Aristotle in the actual world. And even though in w_1 Arimnestus is, in some sense, closer to how we think about Aristotle, we would still insist that (1) is false. According to the Millian Theory, this is exactly the truth-value (1) gets in w_1. For, as explained in the last paragraph, to say that the semantic content of (1) is $<$*Aristotle*, *to*

[6] Note that to say that the truth-value of (1) depends only on whether Aristotle has the property of being born in Stagira is not to say that this sentence could be true and all others false. It might be the case that for Aristotle to have this property, he needs to have other properties as well, like having a mother, in which case (1) could not be true unless 'Aristotle has a mother' is also true. But even if this is the case, it can still be true that the truth-value of (1) should be sensitive only to whether Aristotle has the property of being born in Stagira. What is false is that Aristotle could have the property of being born in Stagira without having the property of having a mother. A way of distinguishing these two claims is to say that the property of being born in Stagira is logically but not metaphysically independent of the property of having a mother.

be born in Stagira> is to suggest that its truth-value depends on whether Aristotle himself has the property of being born in Stagira.

Traditionally, a proponent of the Millian Theory faces criticisms when it comes to account for last role of being the content of cognitive attitudes – which will arguably compromise the theory's ability to offer an account of the truth-value of sentences, third role. These problems are often times clumped together under the name 'Frege's Puzzle'. But here it will be useful to distinguish them into two different problems: a puzzle about belief ('Frege's Puzzle (i)') and a puzzle about the truth-value of belief reports ('Frege's Puzzle (ii)').

As we know, Lois Lane is completely tricked by Superman's attempt of covering up his secret identity by wearing eyeglasses. And she believes that Superman flies but she does not believes that Clark Kent flies. Even though Lois Lane has a false belief, it seems rational for her to believe that Superman flies but not believe that Clark Kent flies, that is to say, Lois Lane is not in the same position as a madman who believes that it is raining and not raining (at the same place and time). On the contrary, it seems that Lois Lane believes and disbelieve two different *things*, and since the things one believes are cognitive contents, Lois Lane seems to believe two different cognitive contents.

According to (T3), the content of Lois Lane's belief is the semantic content expressed by a sentence that expresses her belief. Intuitively, the sentence that expresses the content of the belief that Superman flies which Lois Lane believes is (2), and the sentence that expresses the content of the belief that Clark Kent flies which Lois Lane does not believe is (5):

(2) Superman flies.

(5) Clark Kent flies.

According to the Millian Theory, however, (2) and (5) have the same semantic content. This is because a consequence of (T1) – (T3) is that sentences composed by different but co-referential names (organized in the same way), like (2) and (5), express the same semantic content. The only different between them is on the names 'Superman' and 'Clark Kent'. But because their semantic contribution is the same, this difference will not entail a difference in the semantic content of the names or of the sentences. As a result, according to the Millian Theory, Lois Lane holds conflicting cognitive attitudes: she believes and disbelieves the same content, namely, $<$*Superman*, *to fly*$>$, contrary to our intuitive assessment of Lois Lane mental life. This is Frege's Puzzle (i): how is it possible for Lois Lane to rationally believe that Superman flies but not believe that Clark Kent flies, if Superman is Clark Kent?

Another way of getting the same puzzling consequence about Lois Lane's beliefs is to look at two beliefs Lois Lane has: that Superman flies and that Clark Kent does not flies. She undoubtedly believes them, and, once again, it seems that holding these beliefs do not put her in the same position as the aforementioned madman. Here again the Millian Theory will face a problem. According to it, the cognitive content of her first belief is the semantic content of (2), which is the semantic content of (5). The cognitive content of her other belief is the semantic content of (6) below:

(6) Clark Kent does not fly.

The semantic content of (6) is just the negation of the semantic content of (5).

Since the semantic content is the cognitive content, and the cognitive content of (2) just is the cognitive content of (5), it entails that, according to the Millian Theory, Lois Lane believes a content and its negation, that is, a contradiction. However, this consequence seems to be incorrect. Lois Lane does not seem to believe contradictory contents like the madman. In this way, the puzzling question arises: how is it possible for Lois Lane to believe that Superman flies and that Clark Kent does not fly without believing contradictory contents, if Superman is Clark Kent?

Closely related to Frege's Puzzle about belief, we have Frege's Puzzle about the truth-value of belief reports. Given what we know about the story, (7) but not (8) below is true.

(7) Lois Lane believes that Superman flies.

(8) Lois Lane believes that Clark Kent flies.

According to the Millian theory, both (7) and (8) express the same semantic content because, as I argued before, sentences composed by different but co-referential names (organized in the same way), as (7) and (8), express the same semantic content. This entails, among other things, that (7) is true if, and only if, (8) is true. But this consequence clashes with their intuitive truth-value: (7) is true but (8) is false. In other words, the Millian Theory does not seem to give a correct account of the truth-value of some sentences. This is Frege's Puzzle (ii): how is it possible for (7) and (8) have different truth-values if they express the same semantic content?

Despite of how well the semantic content according to the Millian Theory

plays most of the roles laid out in the last section, philosophers have taken its apparent inability to answer Frege's Puzzles (i) and (ii) good reason to look for a different semantic theory. Those who reject the Millian Theory in general turn to some version or other of the Fregean Theory.

2.2.2 The Fregean Theory

From the Millian Theory we get the Fregean Theory by keeping thesis (T1) – (T3) and replacing (T4) and (T5) with the following thesis:

(T6) The semantic content of a *proper name* is a *mode of presentation* of its referent.

(T7) The semantic content of a predicate is a mode of presentation of a property.

As I noted before, I have (T7) just to have the bare minimum to discuss the semantic and cognitive content of simple sentences like ⌜Fa⌝. While (T7) is consistent with the other thesis I ascribe to the Fregean Theory, it is possible to endorse (T6) but reject (T7). Here again, the readers who dislike (T7) are welcome to replace it by their favorite thesis on the semantic content of predicates.

Modifying the Millian Theory in this way we end up with a theory in the spirit of one proposed most prominently by Gottlob Frege [26], which is why I am calling it *Fregean* Though I should warn the reader not to read to much into the name. The Fregean Theory and Frege's theory are similar, but this section should not be understood as an attempt to reconstruct the latter. So,

the reader should *not* assume that the terms and expressions as is used here have the definition Frege gives them, even though sometimes my proposed definitions will come close to Frege's definitions.

(T6) introduces a new terminology. A *mode of presentation* or *way of thinking* of an object is a way of representing an object in a way that individuates it. For instance, a way of thinking of Superman is to think of him as *the man who wears red underwear over blue pants*; another way is to think of him as *the reporter of the Daily Planet who was never seen together with Superman*. One way of thinking of Aristotle is as *the author of* de Anima; another way is to think of him as *the famous teacher of Alexander, the Great*.

All the examples of modes of presentation I use to illustrate what a mode of presentation is are conceptual representations, that is, a representation involving concepts, like, man, underwear, philosopher, etc. But it should be noted that not all philosopher who defend some version of the Fregean Theory claim that modes of presentation are conceptual. For instance, Evans [21] argues that there are ways of thinking about an object that involves only a cognitive ability of keep track of the object as you perceive it, which can be roughly understood as paying attention at the object for a period of time. For the sake of simplicity the examples of modes of presentation here will always be conceptual.

An important feature of a mode of presentation is that it can only present one object – which is why we use definite descriptions to characterize conceptual modes of presentation. For my examples, the reader should assume that the descriptions are satisfied by only one object. This is not a problematic

assumption because in principle there are uniquely satisfied descriptions, if not of all objects, at least of the objects we ordinarily name.[7]

Let us consider again (2):

(2) Superman flies.

According to the Fregean Theory, the the semantic content of 'Superman' is a mode of presentation of Superman, for instance *the man who wears red underwear over blue pants*. Following (T7), the semantic content of 'to fly' is a mode of presentation of the property to fly; since the semantic content of predicates is not the subject under discussion, let us abbreviate this mode, whatever it is, as $content_{fly}$. By (T2), the semantic content of (2) is determined by the semantic contribution of 'Superman' and 'to fly', which can be represented as $<$*the man who wears red underwear over blue pants*, $content_{fly}>$ and will be abbreviated as $<content_{SM}, content_{fly}>$, such that '$content_{SM}$' abbreviates *the man who wears red underwear over blue pants*.

The Fregean Theory, as a Traditional theory, was proposed with the intention of offering an account of the semantic content of sentences that play (at least) the five roles as well as explaining the intuitions listed in the first section. Let us examine how well it does the job, starting with role of being the cognitive content of beliefs, and addressing the closely related Frege's Puzzles (i) and (ii).

[7] A closely related concern is about whether we can offer *purely qualitative* uniquely satisfied descriptions of objects, that is, descriptions that only uses concepts and no names or indexical expressions. But this should not concern us here.

Recall that Frege's Puzzle (i) call for an answer to the question of how it is possible for Lois Lane to rationally believe that Superman flies but not believe that Clark Kent flies, given that Superman is Clark Kent. Following (T3), the cognitive contents that she believes and does not believe are the semantic content of the sentences that express them. (2) and (5) are the natural candidates.

(5) Clark Kent flies.

The semantic content of (2) is $<content_{SM}, content_{fly}>$, as I explained. On the other hand, the semantic content of (5) according to the Fregean Theory is different because the semantic content of 'Clark Kent' and 'Superman' are different. According to (T6), the semantic content of 'Clark Kent' is a mode of presentation but it is not the same mode of presentation as the semantic content of 'Superman'; it is a content like *the reporter of the Daily Planet who was never seen with together with Superman*, to be abbreviated as '$content_{CK}$'. In this way, the semantic content of (5) is $<content_{CK}, content_{fly}>$

The reason the Fregean Theory have room to distinguish the semantic content of 'Superman' and 'Clark Kent' is because it endorses the criterion to distinguish the semantic content of names below (together with principles of compositionality):

> *Frege's Criterion*
>
> Two sentences S and S' differ in *semantic and cognitive content* if, and only if, *some* rational agent who understood both could, on reflection, judge that S is true without judging that S' is true.

According to Frege's Criterion, we should distinguish the semantic and cognitive content of (2) and (5) because there is a rational agent, namely, Lois Lane, who understands both and judge that (2) is true (given that she believes it) without judging (5) true (given that she does not believe it). Since the only difference between the sentences is in the names 'Superman' and 'Clark Kent', by principles of compositionality, it entails that 'Superman' and 'Clark Kent' have different semantic and cognitive contents.

To answer the question in Frege's Puzzle (i): according to the Fregean Theory, the cognitive content of what Lois Lane believes and of what she does not believe are different. She believes $<content_{SM}, content_{fly}>$ (roughly, that the man who wears red underwear over blue pants flies) but does not believe $<content_{CK}, content_{fly}>$ (roughly, that the reporter of the Daily Planet who was never seen together with Superman does not fly).

The Fregean Theory also has a nice explanation of how it is possible for Lois Lane to rationally believe that Superman flies and Clark Kent does not fly, given that Superman is Clark Kent. According to it, the semantic content of (6) is a simple negation of the semantic content of (5),[8] which can be represented as $<content_{CK}, content_{fly}, Neg>$. But because the semantic content of (5) and (2) are not the same, the semantic content of (6) is *not* a simple negation of the semantic content of (2), that is, $<content_{SM}, content_{fly}>$. Thus, if Lois Lane believes that Superman flies and that Clark Kent does not fly, she does not believe a content and its negation, which means she is not like a

[8]What I mean by this is that we can recognize that (6) negates (5) by means of a undemanding cognitive process, that is, it does not require complex a complex reasoning.

madman who believes a content and its negation.

The Fregean Theory's answer to Frege's Puzzle (ii), the puzzle about belief reports is, perhaps, a bit less attractive but still satisfactory. According to it, (7) and (8) express different semantic contents, because the semantic contribution of one of their basic expressions, namely, 'Superman' and 'Clark Kent' is different: $content_{SM}$ and $content_{CK}$, respectively.[9]

(7) Lois Lane believes that Superman flies.

(8) Lois Lane believes that Clark Kent flies.

Thus, a difference in their truth-value does not entail a contradiction, as with the Millian Theory.

The Fregean Theory is very elegant from the cognitive content point of view, given its intuitive answer to Frege's Puzzle (i). To believe what is expressed by (2) is to believe that the man who wears red underwear over blue pants flies (that is, $<content_{SM}$, *to fly*$>$). On the other hand, to disbelieve what is expressed by (5) is to disbelieve that the reporter of the Daily Planet who was never seen together with Superman flies ($<content_{CK}$, *to fly*$>$). These are two different contents, so Lois Lane does not believe and disbelieve the same content. Moreover, to believe what is expressed by (6) is to believe that the reporter of the Daily Planet who was never seen together with Superman does not fly ($<content_{CK}$, *to fly*, *Neg*$>$). This is not a simple negation of the belief

[9]Note that this departs from Frege's proposal, according to which the semantic content and the referent of 'Superman' and 'Clark Kent' in (7) and (8) is different from their semantic content and referent in (2) and (5), respectively. More about this later on Section 4.6.

expressed by (2), so Lois Lane does not believe a content and its negation.

The semantic content according to the Fregean Theory has no problem with the role of pieces of information encoded. Pieces of information encoded by (1) and (2) are different semantic contents. The first is determined by a mode of presentation of Aristotle, say *the famous teacher of Alexander, the Great* ($content_{Aristotle}$ for short), and a mode of presentation of the property of being born in Stagira, say $content_{born\ in\ Stagira}$, which can be represented as $<content_{Aristotle},\ content_{born\ in\ Stagira}>$. On the other hand, (2) encodes a different piece of information $<content_{SM},\ to\ fly>$.

The semantic content as mode of presentation does a good job at explaining what is preserved in translations. Both sentences (1) and (3) express the same semantic content determined by a mode of presentation of Aristotle and of the property of being born in Stagira: $<content_{Aristotle},\ content_{born\ in\ Stagira}>$.

(1) Aristotle was born in Stagira.

(3) Aristóteles nasceu em Estagira.

Unfortunately, the Fregean Theory faces serious problems when we it comes to the roles related with the truth-value of sentences. Semantic contents are thought to determine whether a sentence is true of false. According to the Fregean Theory, the semantic content of a sentence of the form ⌜Fa⌝ is true if, and only if, the object that fits the description that is the semantic contribution of ⌜a⌝ has the property of being F.[10] In this way, (1) is true if, and only if, the

[10]Technically, the object that fits the description that is the semantic contribution of ⌜a⌝ fits the description that is the semantic contribution of ⌜F⌝.

famous teacher of Alexander, the Great, whoever she is, was born in Stagira. (1) is true in the actual world, and this is also the truth-value according to the Fregean Theory: the famous teacher of Alexander, the Great, is Aristotle and he was born in Stagira.

Despite predicting the correct truth-value for (1), the Fregean Theory seems to do it in a too convoluted way. As I explained before, whether (1) is true or false should depend on whether Aristotle was born in Stagira and not on whether he was born in Aristotle and was the teacher of the Alexander, the Great (see fn. 6). The problem with the way the truth-value of sentences is determined according to the Fregean Theory is made more explicit when we consider the truth-value of sentences in different possible worlds. In w_1, a world in which Aristotle was born in Olympia and was a plumber and Arimnestus accomplished everything we attribute to Aristotle and was born in Stagira, (1) seem false. After all, Aristotle was *not* born in Stagira. However, according to the Fregean Theory, the sentence comes out true because the object that fits the description *the famous teacher of Alexander, the Great* is Arimnestus and he was born in Stagira in w_1.

The appeal the Fregean Theory has given its elegant explanation of the cognitive content seems to vanish on the face of such a serious flaw. On the other hand, it does not seem wise to turn back to the Millian Theory because it does not have a satisfactory account of the content of beliefs, that is, the cognitive content. So what to do now?

2.3 Breaking with Tradition

It is hard not to get puzzled and at the same time amazed by the picture that emerged from the last two sections. The Millian and the Fregean Theories seem to offer the best account of contents that plays different roles. On the one hand, the Millian Theory offers a good explanation of that content that determine whether a sentence is true or false in the actual and different worlds. On the other hand, we have intuitions related to the cognitive content of beliefs that the Fregean theory seems to give the most appropriate explanation. In the light of this, I propose that we stop looking for a content that plays all fives roles and instead develop a theory that respects such a natural division.

Before we venture any further into this quest, some definitions are in order. Let us reserve the expression 'semantic content' to refer to the content related to the truth-value of sentences (in the actual or other worlds). In this way, the third and the fourth roles listed (determining the truth-value of sentences in the actual and alternative worlds) are *semantic roles*, and their corresponding intuitions (intuitions about the truth-value of sentences in the actual and alternative worlds) are *semantic intuitions*. Similarly, we shall reserve the expression 'cognitive content' to refer to the content of beliefs, desires, thoughts, etc. The fifth role listed (being the content of beliefs) is a *cognitive role*, and its corresponding intuition (distinguishing belief contents, and explanation of motivation of actions) is a *cognitive intuition*.

For reasons I will not discuss here, I will also consider the content that plays the first (being the piece of information encoded by sentences) and the second roles (being the content preserved in translations) as a semantic content.

According to my terminology, they are semantic roles and their corresponding intuition are semantic intuitions (distinguishing pieces of information encoded by different sentences and preservation of meaning in translations).

In the light of the new terminology, a *proposition* can defined as a content that is both a semantic and a cognitive content. Theories that deny that there is a content that plays semantic and cognitive roles reject (T3), which I will call the 'Traditional Claim'. Theories that endorse such a claim are *Traditional Theories*.

Chapter 3

Arguments for the Traditional Claim

As I prefaced in the last chapter, here I will to propose a theory in which the semantic content of names is only its referent but its cognitive content is like a mode of presentation, thereby rejecting (T3), the Traditional Claim. There I offered a first motivation for such a view.

In this chapter, I want to discuss two possible arguments in favor of the Traditional claim. I call them 'possible' argument because in the literature we do not find an argument with the purpose of endorsing the Traditional Claim. But there are arguments that could have been used for such a purpose. In the last section, I will consider a common Millian maneuver to address the problem raised by our cognitive intuitions. Since part of my reason to propose a different way of organizing our intuitions depends on the Millian Theory not being able to accommodate cognitive intuitions, I need to explain why I am

dissatisfied with Millian replies.

By the end of this section I will have offered further reasons to continue with the project of looking for alternative ways of accounting for the relation between semantic and cognitive contents.

3.1 Speaks's Argument

Consider the following argument [65, p.10]:

Proposition Argument:

(9.1) John said *that Aristotle was born in Stagira.*

(9.2) It is true *that Aristotle was born in Stagira.*

(9.3) Though it is true *that Aristotle was born in Stagira*, it would have been false if things had gone differently.

(9.4) Mary believed *that Aristotle was born in Stagira.*

(9C) Therefore, there is *something* which John said, which was true, which could have been false, and which Mary believed.

The Proposition Argument seems valid, that is, if the premises are true, then the conclusion is necessarily true. A *Traditionalist* (i.e. philosophers who endorse the Traditional Claim) might take the intuitive validity of this argument to offer support for the Traditional Claim in the following way.

First, 'that Aristotle was born in Stagira' has to signify the same thing in all premises,[1] or else it would be possible for the premises to be true – one content that John said, another that is true, a third content that could have been false, and a last one that is what Mary believed – and the conclusion false, invalidating the argument.

Second, in each of the premises, 'that Aristotle was born in Stagira' signifies the content that figures in the state of affairs that makes them true. For instance, (9.1) is true only if we have a state of affairs in which the person signified by 'John' is in the relation signified by 'to say' with *the content* signified by 'that Aristotle was born in Stagira'. Similarly for the other premises: (9.2) is true only if the content signified by 'that Aristotle was born in Stagira' has the property signified by 'to be true'; (9.3) is true only if the content signified by the 'that Aristotle was born in Stagira' has the property signified by 'to be true' and the property signified by 'to be false if things had gone differently'; and (9.4) is true only if the person signified by 'Mary' is in the relation signified by 'to believe' with the content signified by 'that Aristotle was born in Stagira'.

Lastly, according to my proposed division of contents in Section 2.3, the contents that figure in the state of affairs that make (9.1) and (9.4) true are cognitive contents, for cognitive contents are the contents of John's and Mary's cognitive attitudes.[2] And the contents that figure in the state of affairs that

[1] Here I am purposefully using the neutral expression 'to signify' and not 'to refer' or 'to denote' to avoid the discussion about how the words signify what they do.

[2] The sentence 'John said that Aristotle was born in Stagira' can be understood in at least two different ways: as a report of the words John uttered or a report of the content

make (9.2) and (9.3) true are referring to are semantic contents for semantic contents are that which are true or false in the actual and alternative worlds. Thus, semantic and cognitive contents have to be the same content, if we want to preserve intuitions about the validity of the Proposition Argument.

While I do not dispute that the Proposition Argument is valid, or the first premise of Speaks's argument (i.e., that 'that Aristotle was born in Stagira' signifies the same thing in all premises), I will dispute the second premise. I agree with Traditionalists that the 'that'-clause signifies something that reveals the content that figures in the state of affairs that make the premises true. But it is open for debate whether 'that'-clauses signify is the *content* that figures in the state of affairs. Just to give an example, one could argue that 'that Aristotle was born in Stagira' signifies M, but offer the following analysis of the belief-relation: Mary believes that M in virtue of being disposed to inward assent or agree to a content F, where M and F are truth-functionally equivalent. I am not saying that this is a correct view, it is not, but it illustrates how it is possible for 'that Aristotle was born in Stagira' to signify a content that do not figure in the state of affairs that make the sentence (it is part of) true. Moreover, in this view, the Proposition Argument is still valid.

John expressed. In the Proposition argument, (9.1) is meant as a report of the content and not a report of the words John uttered. However, once we distinguish semantic and cognitive content, a new ambiguity arises. (9.1) may now report two different contents, in addition to the words John uttered: the semantic content or the cognitive content expressed by John. I recognize that the question about whether we *say* semantic or cognitive contents is important but it is only tangential to my project. Here I will consider (9.1) a report of cognitive content and treat it just like belief reports, as it has been traditionally considered. But even if (9.1) turns out to be a report of a semantic content, it would require adjustments to the arguments but it would not change the main findings here.

Before I move on I want to point that the argument as given by Speaks is not exactly the argument I just presented. Originally, Speaks used the argument to support the view that there are abstract entities which are the content of declarative sentences and against semantic theories that deny it, specifically, Davidson's semantic theory. I am using Speaks's argument here because it has been suggested to me his argument could also be used in support of the Traditional Claim. In this dissertation, I will only discuss the argument with the purpose of supporting the Traditional Claim, and I will ignore Speaks's original purpose. So when I talk about Speaks's argument, I mean the argument as I proposed here and not his original argument.

3.2 Salmon's Semantic Argument

At the beginning of his book, Salmon [58, pp. 2-6] provides an argument for the claim that that we have [cognitive] attitudes towards *singular propositions* – the semantic content expressed by a sentence of the form ⌜Fa⌝, such that ⌜a⌝ is singular term and its contribution to the semantic content of the sentence is only its referent. If Salmon is correct, then we may have an argument for the Traditional Claim with the addition of supporting arguments and assumptions that are relatively uncontroversial.

In a nutshell, Salmon's insight is to take the semantic content of 'that'-clauses in true belief reports to reveal the cognitive content of beliefs. Consider the sentence:

(10) Tom is thinking that Ted Kennedy is tall.

This sentence is true if, and only if, Tom is thinking a thought with a certain content. The question is: which content is it? For Salmon, the answer is fairly straightforward: (1) 'that Ted Kennedy is tall' is a term that refers to the semantic content of 'Ted Kennedy is tall', and (2) belief reports are referring to the content of beliefs, thus the content of Tom's belief is whatever is referred to by 'that Ted Kennedy is tall'.

To support (1), Salmon argues that the following is the semantic rule that captures the semantic functioning of 'that':

(SSR) For any (open or closed) sentence $\ulcorner\Phi\urcorner$, the result of prefixing $\ulcorner\Phi\urcorner$ with the 'that'-operator, $\ulcorner$that $\Phi\urcorner$, refers with respect to semantic parameters (such as time, a possible world, a context, or an assignment of values to variables) to the semantic content of $\ulcorner\Phi\urcorner$ with respect to those parameters. [58, p.6]

The argument Salmon offers for (SSR) is that it provides the best explanation for intuitively valid inferences like the following:

All humans are created equal.

(11.1) Smith doubts *that all humans are created equal.*

(11.2) Jones believes *that all humans are created equal.*

(11C) Therefore, *there is something* that Jones believes but Smith doubts.

If '*that all men are created equal*' refers to the same object in both (11.1) and (11.2), then it is easy to see that (11C) follows. Morever, this inference is similar to an inference involving singular referring terms like:

John sentences

(12.1) *John* walks.

(12.2) *John* dances.

(12C) Therefore, *there is something* that walks and dances.

Since we have good reasons to classify 'John' is a referential term, by parity of reason, we should consider 'that all men are created equal' to be a referential term as well.

I do not doubt that Salmon right about (SSR). I am less certain about (2) – belief reports are referring to the content of beliefs – most likely because it is not clear to me what his argument for (2) is. My best guess is that he has something like the following argument in the background: (3) the truth of (10) depends on Tom standing in a thought-relation with the object referred to by the 'that'-clause; (4) the only way of Tom standing in a thought-relation with the object referred to by the 'that'-clause is if it [the referent of the 'that'-clause] is the content of his thought; thus, the truth of belief reports depends on the referent of the 'that'-clause being the content of Tom's thought.

After my reply to Speaks, it is not hard to see where Salmon's argument goes wrong. Premise (4) is debatable. One could agree that 'that Ted Kennedy is tall' refers to the semantic content of 'Ted Kennedy is tall', and offer the

following analysis of the thought- relation: Tom is thinking that Ted Kennedy is tall in virtue of standing in a entertaining-relation with a content F, where the semantic content of 'Ted Kennedy is tall' and F are truth-functionally equivalent. Again, I am not saying that this is a correct view, but it makes clear the problem with the argument.

As with Speaks's argument, the argument I spelled out here and ascribed to Salmon is not the argument he develops in his book. The original argument, i.e. as present by Salmon, takes place in a discussion in which his opponent endorses the Traditional Claim but deny that singular propositions can be the cognitive content. The original argument suggests that singular propositions can be the content of cognitive attitudes. I have argued that the Semantic Argument in a debate on the Traditional Claim has some flaws. I do not take myself to have argued that the argument in its intended debate has the flaws I pointed.

3.3 Previous Attempts

In the first chapter I explained that part of the motivation to develop an alternative view is that the Fregean and the Millian Theories face problems when we assume that a single content is the semantic and the cognitive content. Proponents of each theory are well aware of the problems, and they have offered replies. It would be, however, impractical to survey he answers for each theory here, or offer a knock down objections to each of them. Since I am more inclined to the Millian Theory as a semantic theory – perhaps suggesting

that Salmon [58] is right when he claims that the Millian Theory 'has a *prima facie* claim on our endorsement' – I will take it my starting point. In this section I will discuss different answers to the problems for the Millian theory raised on Chapter 2.

To recap, proponents of the Millian Theory have to explain (i) how it is possible for Lois Lane to believe that Superman flies but not believe that Clark Kent flies, given that Superman is Clark Kent; and (ii) the apparent clash between the truth-value of (7) and (8) according to the theory and our intuitions.

Crimmmins, Perry, Salmon, Soames, among many others,[3] suggest that a belief can be looked at from different perspectives, and, in this sense, it has two different "contents". There is the *content of the belief* which is what the belief represents. From this perspective, Lois Lane's beliefs that Superman flies and that Clark Kent flies have the same content because they represent the same thing, namely, Superman having the property of flying. However, there is another perspective from which we can look at her beliefs, which is *how* Lois Lane believes the content of the belief. Given how the story goes, Lois Lane has two different modes of presentation or two different ways of grasping the same content that Superman flies: one as *the man who wears red underwear over blue pants flies* and the other as *the reporter of the Daily Planet who was never seen together with Superman flies*. For reasons that will

[3]To be sure, there are great differences between the theories these philosophers have proposed, some of which will be explained shortly. See Perry [42, 13], Kaplan [34, 35], Salmon [58, 55], Soames [63].

become clear soon, I will call it the 'motivational aspect' of a belief. From the motivational aspect (or the mode of presentation), Lois Lane's beliefs are different because she thinks of Superman in two different ways.

Millians now can explain Frege's Puzzle (i). It is possible for Lois Lane to believe that Superman flies but not that Clark Kent flies because she has two different ways of representing the content Superman having the property of flying, which she obviously does not see as ways of representing the same content. Under one way she believes that Superman flies; under the other, she does not.

The distinction between the content of the belief and the motivational aspect also explains how Lois Lane can believe that Superman flies and that Clark Kent does not fly without believing contradictory beliefs. With the discovery of two aspects of beliefs, to believe contradictory beliefs is to believe a content and its negations when representing them *in the same way* – and not simply to believe a content of a belief and its negation. Had Lois Lane believed that Superman flies as *the man who wears red underwear over blue pants flies* and that Superman does not fly as *the man who wears red underwear over blue pants does not fly*, she would have believed contradictory contents. But this is not Lois Lane's position. She believes that Superman flies when representing Superman in one way, and she believes that Superman does not fly when representing Superman in another way.

From this Millian viewpoint, part of Fregeans's mistake is to collapse the content of the belief with its motivational aspect. Cognitive intuitions that give rise to Frege's Puzzle are explained by differences in the motivational

aspect of belief, and not by differences in the content of the belief.

The Millian reply to Frege's Puzzle (i) is clever but, I shall argue, wrong. Fregeans are right in insisting the content of the belief cannot be distinguished from the motivational aspect as Millians want.

Suppose Lois Lane is on the top of a building on fire, sees a man wearing red underwear over blue pants, and jump into his arms. What motivated her to jump into his arms? One could say that it was the fact that Superman was behind her. However, it is not hard to see that the fact alone cannot give Lois Lane's motivation to perform an action: had she not *believed* it, it could not have motivated her to jump into his arms. As suggested, a better answer to the question is that she believed that Superman was behind her, that he flies, that he could carry her to the ground safe and sound, in addition to her desire to be safe, with other background beliefs, desires, etc.[4] So beliefs (desires, among other things) have *motivational power*, that is, in the right circumstances, they motivate us to perform certain actions – which action an agent will perform depends on what she believes.

Beliefs are naturally distinguished in terms of the actions they motivate. For instance, keep the situation described before the same and just replace the belief that Superman is behind her for the belief that Clark Kent is behind her. Based on what we know about Lois Lane's cognitive life – she does not look for Clark Kent in dangerous situations, and does not believes that Clark

[4]This is not to say that had we asked Lois Lane why she jumped into Superman's arm she would say 'Because I believed that Superman was behind me.' The question about her motivation to act is not a question about what she would have said had we asked her why she performed such an action.

Kent flies or that he could save her –, we would not expect her to jump into the arms of the guy behind. In this case, we would probably expect her to scream for help, or something like that. So, in the same circumstances, the beliefs that Superman is behind her and the belief that Clark Kent is behind her motivate different actions. This leads us to conclude that the beliefs are different, and support the thesis stated: beliefs can be distinguished by the actions they motivate in the same circumstances.

All that I have said so far fits very well with how we ordinarily explain people's intentional behavior, one of the primary reasons we ascribe beliefs to agents. The belief that Superman is behind Lois Lane has the explanatory role in her behavior only if it motivates the same behavior in the same circumstances. Thus, if the belief that Clark Kent is behind Lois Lane does not motivate her to behave the same way, then they are two different beliefs.

The Millian reply under discussion is not incompatible with the ordinary explanation. According to it, the belief that Superman is behind Lois Lane and the belief that Clark Kent is behind Lois Lane are different because their motivational aspect is different, even though their contents are the same. And so, as Braun has [5] argued, strictly speaking, Millianism does not makes psychological generalizations false. What makes me wary about this account of beliefs is that it seems to single out beliefs from other representations. In general, if two representations are different, then they have different contents. For instance, if two putative pictures are different pictures, then they have different contents. Or if we two putative movies are different, then they have

different contents.[5] The difficult question in these cases is to determine *when* two putative pictures or movies are different. Are two putative pictures of the same house *different* pictures? Are two movies about the same event different movies? The answer to those questions might not be clear. But what is important is that an answer to these questions would entail a claim about their contents.

By analogy, if two putative beliefs are different beliefs, then they should have different contents. Unlike pictures and movies, the question 'Are the beliefs that Superman is behind Lois Lane and the belief that Clark Kent is behind Lois Lane different beliefs?' has not only a clear answer but a positive answer, as I argued in three paragraphs ago. This means that the beliefs that Superman is behind Lois Lane and that that Clark Kent is behind Lois Lane have different *contents*, contrary to the Millian proposal. Of course beliefs, pictures, and movies are different *kinds* of representations, and to some extent they will have important differences – just to mention one, beliefs as mental states of a subject can motive her to act, whereas pictures as pictures and movies as movies (*not* as the content of a belief) cannot. But claims about the relation between a representation and its content should be true to all representations, regardless of their *kind*. The Millian proposal that the content of the beliefs that Superman is behind Lois Lane and that that Clark Kent is behind Lois Lane differ not with respect to their content entails that beliefs *qua* representations are not like other representations. Such a strong claim requires

[5]By 'two pictures' and 'two movies' I do not mean two different physical copies.

much more arguments that we have been given. For this reason, I take that the Millian reply considered here does not account for Frege's Puzzle (i).

The Millian solution to Frege's Puzzle (ii) does not fare much better either. Its problems range from disregard to isomorphism between syntax and logical form of belief reports, intuitions about the truth or falsity of belief reports and explanation of bodily actions – which problems (or combination thereof) the solution has depends on which version we consider. I will illustrate the problems by discussing two versions of the reply in more details, one offered by Crimmins and Perry [13], and another offered by Salmon [58].

Crimmins and Perry[6] propose that the belief relation semantically expressed by 'to believe' in ⌜S believes that P⌝ is a ternary relation among speakers, semantic/belief contents and motivational aspect to indicate how speakers think about *P*. In this way, (7) and (8) means (13) and (14), respectively:

(7) Lois Lane believes that Superman flies.

(13) Lois Lane believes <*Superman*, *flies*> by means of *the man who wears red underwear over blue pants.*

(8) Lois Lane believes that Clark Kent flies.

(14) Lois Lane believes that <*Superman*, *flies*> by means of *the reporter of the Daily Planet who has never been seen together with Superman.*

[6] *op. cit.*

Part of their motivation for this proposal is to preserve our intuitions about the truth-value and explanatory power of (7) and (8). In this account, (7) comes out true because Lois Lane believes that Superman flies when she thinks of Superman as *the man who wears red underwear over blue pants*. On the other hand, (8) is false because Lois Lane does not believe that Superman flies when she thinks of Superman as *the reporter of the Daily Planet who has never been seen together with Superman*. The difference in truth-value is not a problem because (7) and (8) express different semantic contents, even though (2) and (5) express the same semantic content. For similar reasons, Crimmins and Perry's account explain why (15) and (16) below are not interchangeable to answer the question about Lois Lane motivation to jump into Superman's arms: they have different semantic contents.

(15) Lois Lane believes Superman is behind her.

(16) Lois Lane believes Clark Kent is behind her.

While Crimmins and Perry's solution to the puzzle is attractive, it denies isomorphism between syntax and logical form of belief reports. Surface grammar suggests that 'to believe' is a binary relation between a subject and a semantic content (assuming that 'that'-operator is a referring device of semantic content, as Salmon has argued). But under their proposal, 'to believe' turns out a ternary relation. Although disregarding surface grammar is not, by itself, bad – as many would argue with the Russellian treatment of definite descriptions, to give an example –, we need good reasons to do so. The reasons we are offered are not good reasons for they are not independently motivated.

As a matter of fact, the reason we have is to preserve the Millian Theory as a semantic theory for proper names, especially if we keep in mind that the solution for Frege's Puzzle (i) is problematic, as I already argued.

Salmon's [58] version of the solution does not do away with the binary belief relation, thereby preserving isomorphism between syntax and logical form. But, he argues, the binary belief-relation should be analyzed in terms of an existential generalization of a *ternary* relation between a subject, a the content of belief (i.e., the semantic content referred to by 'that'-clause) and a mode of presentation of the content, which he calls '*BEL*'. Loosely speaking, a subject S is in the *BEL* relation with a semantic content P by means of a mode of presentation m when S is disposed to inward assent or agree to P when taken in way m [58, p. 111].[7] This gives us the following analysis of the belief-relation:

(17) S believes that P if, and only if, $\exists x$ [S grasps P by means of x & *BEL*(S, P, x)]

(17) says that S believes that P if, and only if, S stands in the BEL-relation with P by a mode of presentation. In this way, (7) express the binary belief relation between Lois Lane and the semantic content of (2). Given (17), (7) is true if, and only if, Lois Lane stands in BEL-relation with $<$*Superman*, *flies*$>$ (the semantic content of the 'that'-clause) and a mode of presentation:

[7] Salmon defines other notions related to the belief relation but this is not be relevant for the cases I will discuss here.

(18) Lois Lane believes <*Superman*, *flies*> if, and only if, ∃x [Lois Lane grasps <*Superman*, *flies*> by means of x & *BEL*(Lois Lane, <*Superman*, *flies*>, x)]

As Salmon notes, right-hand side of the biconditional is true: Lois Lane is disposed to assent to the proposition <*Superman*, *flies*> by means of a mode of presentation, namely, *the man who wears red underwear over blue pants flies*. Thus, Lois Lane believes that Superman flies, and (7) is true.

Despite the advantage of Salmon's theory of maintaining isomorphism between syntax and logical form, it comes with what I take to be a high cost of denying the intuitive different in the truth-value of (7) and (8) and the explanation of actions. In Salmon's view, (7) and (8) have the same truth-value: both are true if, and only if, Lois Lane stands in the *BEL*-relation with <*Superman*, *flies*> and a mode of presentation. Since, as we saw, she does, then (7) and (8) are true. For similar reasons, both (15) and (16) give the correct answer to the question about Lois Lane's motivation to jump into Superman's arms. If her motivation is the belief that Superman is behind her, then either sentence will express this. The intuition that only (15) express the right belief and that (7) and (8) have different truth-value is explained away by means of pragmatic implicatures. (7) and (8), as well as (15) and (16), pragmatically impart different contents which we mistakenly take to be their semantic content.

The problems I raised here for the line of solution to Frege's Puzzle (ii) are not new. Crimmins, Perry, Salmon and other philosophers who offer the same line of explanation are well aware of them, and they have offered responses.

I will not go into the details of the discussion, but suffice to say that they do not deny the charges. In general, they argue that the counterintuitive consequences are not as bad as they seem. But for those who, like me, are not willing to give them up, it is time to look for alternative accounts.

Chapter 4

What's Next? Positive Theory

In Chapter 2 I explained the tension between our semantic and cognitive intuitions, which arises from our ambition of having one theory to account for both intuitions. On the one hand, semantic intuitions seem to support the Millian Theory about the semantic content of proper names. On the other hand, our cognitive intuitions seem to support the Fregean Theory.

In an attempt to take both semantic and cognitive intuitions seriously, I proposed that we reject the Traditional Claim, and take the semantic and cognitive content to be distinct contents. In Chapter II, I give some *prima facie* plausibility for such a proposal by explaining how the validity of certain inferences and the truth-conditions of belief reports that could have been taken to support the Traditional Claim can be at least equally well accommodated by an account that rejects it. I have also explained my dissatisfaction with the Millians replies to the problem raised by Frege's Puzzle (i) and (ii).

In this chapter I spell out in details of a theory that does not have the

Traditional Claim among its theses. The way I proposed a separation of the intuitions in Chapter 2 gave away a lot of the theory I want to develop. I will start by laying out the theses behind that were on the background in Chapter 2 and Chapter II, and add other theses to fill in the gaps. In Section 4.3 and Section 4.4, I explain in details how it solves the most basic puzzles about the relation between semantic and cognitive content. In Section 4.5 I will go back to Speaks, Salmon's, argument and explain details the replies I have only sketched in Section II. I finish this chapter with Section 4.6 in which I reply to objections specific to my view.

4.1 The Theory

The theory I endorse retain only theses (T2), (T4) and (T5)[1] of the the Millian Theory to restrict its scope to the semantic content:

(T2) The semantic content of a sentence of the form ⌜Fa⌝ is a structured entity determined by the semantic content of its *basic expressions*, namely, ⌜a⌝ and ⌜F⌝, and principles of compositionality.

(T4) The semantic content of a proper name is its referent.

(T5) The semantic content of a predicate is a property.

[1] See comment on (T5) on page 12.

I replace (T3), which gives the cognitive content, by the following theses which are Fregean in spirit:

(T8) The cognitive content of a *cognitive subject* S's belief is the cognitive content *for* S of a sentence that expresses the belief.

(T9) The cognitive content of (an utterance of) a sentence *for a cognitive subject* S is a structured entity determined by the cognitive content of its basic expressions *for* S.

(T10) The cognitive content of (an utterance of) a name 'N' *for* a *cognitive subject* S is the mode of presentation of its referent associated with 'N' *for* S.

(T11) The cognitive content of (an utterance of) a predicate ⌜F⌝ *for* a *cognitive subject* S is the mode of presentation of the property it signifies associated with the predicate *for* S.

I use the expression 'cognitive subject' as a neutral term to mean any individual capable of having cognitive attitudes, including non-human animals, if we later decide they are capable of cognitive attitudes.

(T10) is one of the central thesis of my theory, so it is worth spending some time clarifying it. According to it, not all modes of presentation associated with a name 'N' for a cognitive subject S are the cognitive content of 'N' for S. The thesis is very explicit in stating that the cognitive content of the name for an agent is a mode of presentation *of its referent*. If Lois Lane associates

a mode of presentation δ of Arimnestus with the name 'Aristotle', δ is not the cognitive content of 'Aristotle' for her. In this way we prevent mismatches between the object represented by a cognitive content and the object referred to by a name.

One might worry that (T10) implies that if a name 'N' has a cognitive content for an cognitive subject S, then it guarantees that S has at least one mode of presentation that "fits" the referent. And, the objection goes, this is false for agents can have beliefs of objects even if they do not fit the descriptive content of the cognitive content. For instance, suppose John is colorblind. He sees an object flying in the sky and, upon reflection (is it a bird? is it an airplane?), he realizes that it is Superman. Like Lois Lane, he could think of Superman by means of a description of his outfit. However, because John is colorblind the way of thinking is different from Lois Lane's; it is a description like: *the man who wears dark gray underwear over gray pants*, *the* γ, for short. It is hard to deny that in this case *the* γ is of Superman. However, according to the objection, in my view it is not of Superman because he does not fit the description – he is not wearing gray pants, he is wearing his regular blue pants.

The objection rests on a false assumption that cognitive contents represent an object *necessarily* in virtue of it satisfying the descriptive content. But this is not how I think of the relation between cognitive contents and the represented object, especially if we keep in mind that cognitive contents might not be conceptual, in which case there is no descriptive content for its represented object to "fit". An account of the relationship between cognitive content (rep-

resentation) and represented object that I am particularly attracted to is as a causal account: a cognitive content CC is of an object o if, and only if, o (somehow) causes CC. This explanation fits well in John's case: *the man who wears dark gray underwear over gray pants* is causally related with Superman for Superman caused John's visual perception, which was then translated into a description.[2]

The last remarks about cognitive contents reveal that (T10) is fregean in spirit but cognitive contents do not collapse with the fregean notion of a mode of presentation. According to the Fregean Theory, a (fregean) mode of presentation determines the referent and represents the object that fits the description. In my proposed theory, the cognitive content has no role in determining the semantic content of names – the orthodox way is to think that the reference is *causally* determined –, and the object they represent do not need to satisfy the description. So even though cognitive contents have a fregean feel to them, we should keep in mind that they are not the same as a fregean mode of presentation.

Not surprisingly, the proposed theory accommodates the semantic intuitions in Chapter 2 just as well as the Millian Theory. The pieces of information encoded by (1) and (2) are different because they refer to different objects

[2]I do not take such a causal account to be uncontroversial, and I admit that it should be discussed further. But I shall not argue for it here. For the remainder of this dissertation, I will suppose that there are ways of cashing out the relation between a mode of presentation and the object it represents that does not require the object to fit the description. For different ways a causal relation can determine the content of mental states see Block [2], Devitt [18], Dretske [19, 20], Fodor [24, 25], Harman [31], and Sterelny [67] – the latter argues for a view closest to what I have in mind.

and predicates

(1) Aristotle was born in Stagira.

(2) Superman flies.

It also explains why (3) is a proper translation of (1); they express the same semantic content in different languages.

(3) Aristótles nasceu em Estagira.

Finally, the semantic content captures the elements which the truth-value of sentences with proper names depends on when evaluating the sentence in the actual worlds or alternative worlds, as explained before.

Like with the Millian Theory, theses (T2) and (T4) entail that (2) and (5) have the same semantic content, namely, $<$*Superman*, *to fly*$>$.

(2) Superman flies.

(5) Clark Kent flies.

However, unlike the Millian Theory, their cognitive content might not be the same. According to (T8) – (T11), the cognitive content of a sentence is relativized to cognitive subjects and may vary depending on which mode of presentation is associated with 'Superman' and 'Clark Kent' for them. For Lois Lane, the sentences have different cognitive contents (as I shall later in Section 4.3 explain why) – something along the lines of *the man who wears red underwear over blue pants flies* ('*the* σ *flies*' for short) and *the reporter of the Daily Planet who was never seen together with Superman flies* ('*the* ρ *flies*' for

short), respectively.[3] For other cognitive subjects, like Jonathan Kent, Superman's father, the cognitive content of (2) and (5) could be the same. It all depends on which cognitive content is associated with the names for them.

Allowing cognitive contents of a sentence, names, and predicates to vary according to cognitive subjects is a welcome result, given how I proposed we understand the notion of cognitive content in Chapter 2 and Chapter II – a content that individuates beliefs and motivates action – and the fact that for Jonathan the name 'Superman' and 'Clark Kent' are interchangeable from the viewpoint of his cognition.[4] It is, however, important to note that (T9) – (T11) understood in this way might render the talk about the cognitive content of names *simpliciter* – not relative to an agent – to some extent meaningless. This is because in my theory the most informative way of defining the cognitive content of a name *simpliciter* is to understand it as a function of agents to the cognitive contents for them. Even though in this way we will be able to

[3]Strictly speaking, the content of Lois Lane's belief is a function of the mode of presentation of Superman and the property of flying.

[4]This does not mean that in all contexts it will be appropriate to *use* either name to express his belief. As it has been well documented in the literature, especially in discussions about the problem of exportation and truth-conditions of belief ascriptions (see [66, 29, 58, 21]), there are other contextual elements that are taken into consideration by speakers when deciding which expression is appropriate to communicate their beliefs, like, conversational implicatures, conventional implicatures, the cognitive content of the names for the speaker's audience (together with the aim the speaker has in uttering a name), to name a few. To give a simple example, suppose we want to help Superman to keep Lois Lane from finding out about his secret identity, and she asks us whether Jonathan knows someone who flies. In this case, the reply 'Yes, he knows that Clark Kent flies' is inappropriate, even though it is true and correctly answer Lois Lane's question. But it should be clear that the word choice in this case has less to do with the cognitive content of Jonathan's beliefs, and more to do with what we take to be the cognitive content of Lois Lane's beliefs and our intention of not letting her to find out that Superman is Clark Kent. The means by which a speaker chooses to communicate beliefs does not depend exclusively on the cognitive content of the belief she wants to communicate, but also of other relevant contextual elements.

distinguish the cognitive content of co-referential names *simpliciter* (as long as their cognitive content differs for at least one agent), it will not be useful since it will not work as evidence that the names have different cognitive contents for a putative cognitive subject. For the cognitive content of names *simpliciter* defined in this way will entail that the cognitive contents of 'Superman' and 'Clark Kent' *simpliciter* are different, since for Lois Lane they are different. But knowing that they have different cognitive contents *simpliciter* will not entail that they are different for everyone – by assumption they are not different for Jonathan.

At this point we do not have all the formal resources needed to address Frege's Puzzle (i) and (ii) – I still have to explain why the cognitive content of (2) ad (5) are different for Lois Lane. But we can see how the solution is supposed to go for Frege's Puzzle (i): how is it possible for Lois Lane to rationally believe that Superman flies but not believe that Clark Kent flies, if Superman is Clark Kent? It is possible because the cognitive content of (2) and (5) for her are different, *the* σ *flies* and *the* ρ *flies*. Or we can talk about the cognitive content of Lois Lane's belief not in relation to linguistic expressions: it is possible because she believes and disbelieves two different cognitive contents, *the* σ *flies* and *the* ρ *flies*, respectively.

A similar explanation is available to the second version of the puzzle: how is it possible for Lois Lane to believe that Superman flies and that Clark Kent does not fly, if Superman is Clark Kent?

(2) Superman flies.

(6) Clark Kent does not fly.

It is possible because the cognitive content of 'Superman' and 'Clark Kent' for her are different, *the* σ and *the* ρ, respectively. Thus, the cognitive content of (6) for Lois Lane, namely, *the* ρ *flies*, is not a simple negation of the cognitive content of (2) for Lois Lane, namely, *the* σ *flies* – the former is a simple negation of *the* ρ *flies*, and *the* σ *flies* and *the* ρ *flies* are different cognitive contents.

4.2 (Interesting and Not so Interesting) Additional Theses

Here I will list three additional thesis about cognitive contents we need to explain some of the most well-known puzzles about belief and belief ascription we find in the literature.

First Thesis: Cognitive contents may differ in their *way of representing* or *the object they represent*.

Consider these sentences:

(2) Superman flies.

(5) Clark Kent flies.

(19) Aristotle flies.

All of them should have different cognitive contents for Lois Lane. The cognitive content of (2) and (5) are distinct in terms of a difference in the way Superman is represented, that is, the way she thinks about Superman. But,

as I have suggested, the cognitive content of (2) and (5) does not have to be different for all agents, by assumption they are different for Jonathan. On the other hand, the cognitive content of (2) (or (5)) and (19) should be different for everyone because they are about different people.[5]

Second Thesis: A cognitive content that represents an object having a property is *accurate* if, and only if, the object represented has the property represented.

We ordinarily talk about beliefs being true or false. We say that Lois Lane's belief that Superman flies (*the σ flies*) is true but her belief that Clark Kent does not fly (*the ρ does not fly*) is false. In Chapter 2, I classified the content that is true or false as a semantic content. Since I deny that cognitive contents of beliefs are not the semantic content of the sentence that expresses it, it might not be appropriate to talk of a cognitive content being true or false.[6]

[5]This is important for it addresses the objection raised by Gray [30] to a similar account of cognitive contents by Recanati [50].

[6]Whether it is appropriate or not depends on a number of things: is the cognitive content of (2) for Lois Lane a semantic content albeit not the semantic content of (2)? Here I have been giving examples of cognitive contents that are conceptual. But as I warned in Section 2.2.2, it is just for the sake of simplicity. Depending on which kind of contents are cognitive contents. I will not address these questions here. But it is important to explain how we can accommodate talk about truth-conditions of beliefs even if only in a derivative sense.

In order to accommodate our ordinary talk that beliefs are true (or false), I suggest that we think of the cognitive content of beliefs having *accuracy* conditions, instead of truth-conditions. A cognitive content that represents an object having a property is *accurate* if, and only if, the object represented has the property represented. In this way, *the σ flies* is accurate for it represents Superman having the property of flying, and it is the case, but *the ρ does not fly* is inaccurate because it represents Superman not having the property of flying, and this is not the case.

As a result of the restriction imposed by (T10) – a cognitive content is mode of presentation of the referent of the name –, a cognitive content CC of a sentence u for S is accurate if, and only if, the semantic content of u is true. In this way, there will not be cases in which a cognitive content of a sentence for S is (in)accurate and the semantic content of the sentence is (true) false, even if S's way of thinking of an object does not fit it. For suppose John incorrectly believes that Aristotle was the teacher of Plato, and represents Aristotle as in this way, *the τ*, for short. Furthermore, suppose that *the τ was born in Stagira* is the cognitive content of (1) for John. (1) is true in the actual world. And, contrary to what one might think, *the τ was born in Stagira* is accurate in the actual world because *the τ* represents Aristotle and he was born in Stagira. It is incorrect to suggest that *the τ was born in Stagira* is inaccurate because Socrates was born in Athens. First, such suggestion depends on the claim that *the τ* represents whoever fits the description, which I explained is not how we should think of cognitive contents of objects. Second, if *the τ* represents Socrates, then it cannot be the cognitive content of 'Aristotle'

because it is not of Aristotle, and the cognitive content of a name for any cognitive subject has to be about its referent.

We can also define a notion of *accurate at a world* corresponding to the notion of *true at a world* to accommodate the talk of beliefs true at worlds. A cognitive content that represents an object having a property is *accurate at a world* w if, and only if, the object represented has the property represented *at* w. For instance, suppose Lois Lane thinks of Aristotle was *the teacher of Alexander, the Great* (*the* α, for short) and this way of thinking is associated with 'Aristotle' for her. Thus, the cognitive content of (1) for her is *the* α *was born in Stagira*. It is accurate in the actual world because Aristotle is the object represented by *the* α and he was born in Stagira. On the other hand, it is inaccurate in w_1 – where Arimnestus did all the things for which Aristotle is know for in the actual world and was born in Stagira, whereas Aristotle was born in Olympia – because Aristotle is the object represented by *the* α and he was not born in Stagira in w_1. The value of accuracy of the cognitive content of (1) for Lois Lane follows the truth-value of the semantic content of (1). Here will not be cases in which a cognitive content of a sentence for S is (in)accurate at world and the semantic content of the sentence is (true) false. Thus, a cognitive content CC of a sentence u for S is accurate at a world w if, and only if, the semantic content of u is true at w.

Here again there is room for misunderstandings. On might suggest that *the* α *was born in Stagira* should come out accurate in my view for reasons similar to why the semantic content of (1) comes out true according to the Fregean Theory. After all, the objection goes, in w_1 the object represented

by *the* α is Arimnestus, since he fits the description, and he was born in Stagira. This objection, like the last one, rests on a mistaken understanding of cognitive contents of names. First, *the* α does not represent whoever fits the description; it represents the object causally related to it. Second, if *the* α represents Arimnestus in w_1, then it cannot be the cognitive content of 'Aristotle' because it is not of Aristotle, and the cognitive content of a name for any cognitive subject has to be about its referent.

Third Thesis: To believe a contradiction is to believe a cognitive content and its *simple* negation.

In my proposed account we can explain the difference between Lois Lane and the madman by defining what it means to hold contradictory beliefs in a way that entails irrationality (in the relevant sense here) in the following way: a cognitive subject S believes contradictory believes if, and only if, S believes a cognitive content and also believes its *simple* negation. For instance, the simple negation of *the* σ *flies* is *the* σ *does not fly*. But *the* ρ *does not fly* is not a simple negation of *the* σ *flies*. And even though *the* σ *flies* and *the* ρ *do not fly* cannot be both accurate, that does not mean that believing both is believing a contradiction.

4.3 The Cognitive Content of 'N' for S

In the first section of this chapter I said that the cognitive content of 'Superman' and 'Clark Kent' for Lois Lane are different because the mode of presentation associated with them for her are different. But a question remains: why are they different?

Perhaps the most natural way of understanding which mode of presentation is associated with a name for a cognitive subject S is as *the mode of presentation S associates with 'N'*.[7,8] Lois Lane's case seems to fit in in this model very well. She indeed associates different modes of presentation of Superman with the names '*Superman*' and '*Clark Kent*': when she hears 'Superman', then mode of presentation of Superman that comes to her mind is *the* σ; and when she hears 'Clark Kent', the mode of presentation of Superman that comes to her mind is *the* ρ. (T10.a) below captures this interpretation, if we focus on the proper name and ignore the cognitive content of predicates.

(T10.a) The cognitive content of a name 'N' for a cognitive subject S is the mode of presentation of its referent that S associates with 'N'.

It is not hard to see, however, that (T10.a) will not go very far. It requires

[7] See Richard [52, pp. 64–8].

[8] My talk about a cognitive subject associating a mode of presentation with a name might incorrectly suggest that the association is voluntary. I do not mean to say this. The problem is that the verb 'to associate' brings the idea of a *voluntary* action but I do not mean to suggest that speakers voluntarily associate certain contents to linguistic expressions. What I mean is that someone who knows the name 'N' employs a way of thinking of the referent of the name, which is retrieved whenever she recognizes an utterance of the name. But the information associated with the name might not be voluntary associated.

that S has the name in her vocabulary, but in some cases a name will have a cognitive content for S even if it is not in her vocabulary.[9] For instance, João, a competent Portuguese speaker who does not speak English, can hold beliefs about Superman despite not associating any cognitive content with 'Superman'. If he believes that Superman flies, we can truly say that he believes what is expressed by (2), and (20) below is true:

(20) João believes what is expressed by 'Superman flies'.

The truth of (20) depends on João having the cognitive content of (2) for him in his belief box, so to speak.[10] However, since the name is not in his vocabulary – 'Superman' is a name in English and, by assumption, João does not speak English –, João does not associate any mode of presentation with 'Superman'. Thus, (2) will not have a cognitive content for him, and (20) will not be true in the supposed situation.

A natural modification of (T10.a) to accommodate João's case is to say that the cognitive content of a name 'N' for a cognitive subject S is the mode of presentation of its referent that S associates with 'N' or one of its translations:

(T10.b) The cognitive content of a name 'N' for a cognitive subject S is the mode of presentation of its referent that S associates with 'N' *or one of its translations*.

[9] See Richard [52, p.66].

[10] The expression 'belief box' is usually used to explain what it means to have a belief according to the *language of thought hypothesis*, that is, a physical representation of a content in the brain. However, here I am not using this expression with this meaning, and I do not mean to say that cognitive contents are tokens in the language of thought. The metaphor of a belief box is merely a pedagogical aid.

With (T10.b), (20) is true, as it should be, because the cognitive content of (2) for João is the cognitive content he associates with its translation into Portuguese (21), which as a competent speaker of Portuguese he has in his vocabulary, and it is in his belief box.

(21) Superhomem voa.

While (T10.b) is improvement over (T10.a), it is still subject to counter examples, for instance, Kripke's [38] puzzle about belief. Let me first explain Kripke's case. Suppose José is a competent Portuguese speaker who lives in Brazil and does not speak English[11]. He has heard of lot of nice things about London, which he calls 'Londres', and believes what is expressed by:

(22) Londres é bonita.

which is the Portuguese translation of the English sentence:

(23) London is pretty.

Eventually, José moves to London, but to a very unattractive neighborhood. He has never left this unattractive neighborhood, and while there he learns English from native English speakers who do not speak Portuguese. One of the things he learns is that 'London' is used to refer to the city he lives. So, naturally, he believes what is expressed by (24):

(24) London is not pretty.

[11]The case described here is a slight modification of Kripke's original case.

Because of the way José learned the names 'Londres' and 'London', he does not know that they refer to the same city. Now consider the following sentences:

(25) José believes what is expressed by 'Londres é bonita'.

(26) José believes what is expressed by 'London is not pretty'.

For the sake of simplicity, let us suppose that José knows that 'ser bonita' and 'to be pretty' express the same property in different languages, and associates the same cognitive content (*is pretty*) with them. (25) is true if, and only if, the cognitive content of (22) for José is in his belief box. In José's case, (25) is true. According to (T10.b), this means that the mode of presentation he associates with (22) or one of its translation is in his belief box, say $CC_{Londres}$*is pretty*, such that '$CC_{Londres}$' is a mode of presentation of London that José associates with 'Londres' and '*is pretty*' is the mode of presentation of 'ser bonita'.

On the other hand, in José's case, (26) is false. Since (26) is true if, and only if, the cognitive content of (24) for José is in his belief box, according to (T10.b), this means that the mode of presentation he associates with (24) or one of its translation is not in his belief box. Call this cognitive content CC_{London}*is not pretty*, such that 'CC_{London}' is a mode of presentation of London that José associates with 'London' and '*is not pretty*' is the mode of presentation of 'to be not pretty'.

One of the problems with (T10.b) is that we can derive a contradiction – that (25) and (26) are true and false – with two seemingly uncontroversial assumptions. First, if José believes that $CC_{Londres}$*is pretty*, then he does not believe its negation, that is, $CC_{Londres}$*is* ***not*** *pretty* – which is a combination

of the cognitive content José associates with 'Londres' ($CC_{Londres}$) and the cognitive content of 'não ser bonita' (*is not pretty*) – is not in his belief box. Similarly, if José believes that CC_{London}*is not pretty*, then he does not believe the unnegated content, that is, CC_{London}*is pretty*, which is a combination of the cognitive content José associates with 'London' (CC_{London}) and the cognitive content of 'to be pretty' (*is pretty*). The following figure sums up our intuitions about this case:

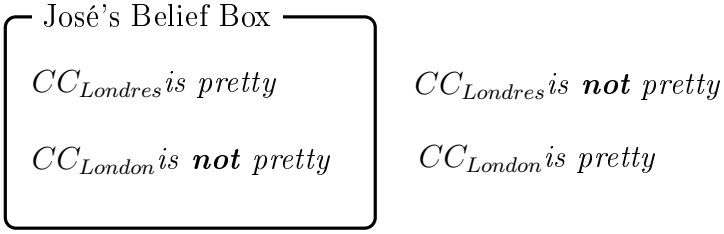

Figure 4.1

The cognitive contents inside José's belief box are the cognitive contents he believes. The cognitive contents outside his belief box are the cognitive contents he does not believe.

From this we can derive the two aforementioned contradictions in the following way. (25) is true if, and only if, the cognitive content of (22) for José is in his belief box. Given our intuitions of the case, (25) is true. However, according to (T10.b), (25) is also false. For, according to it, the cognitive content of (22) for José is the mode of presentation he associates with it or one of its translations. Furthermore, the mode of presentation he associates with one of its translation, namely, CC_{London}*is pretty* and (23), respectively,

is outside his belief box.

Similarly for (26). In José's case, it is false. However, if (T10.b) is correct, (25) is also true. For (26) is true if, and only if, the cognitive content of (24) for José is in his belief box. But according to (T10.b), the right-hand side of the biconditional is true: the cognitive content of (24) for José is the mode of presentation he associates with it or one of its translations, and he mode of presentation he associates with one of its translation, namely, $CC_{Londres}$*is not pretty* and (27), respectively, is inside his belief box.

(27) Londres não é bonita.

With (T10.b) we were able to show that (25) and (26) are both true and false, which is unacceptable. This suggests that we should look for a replacement for (T10.b).

The problem with (T10.b) is that it ignores cases in which a speaker associates different modes of presentation of an object with a name and one of its translations in another language. The natural way of talking about José's cognitive life suggests that we should give preference to the cognitive content the speaker associates with the version of the name that appears in sentence over the content associated with one of its translations: the argument is more compelling if we derive the contradiction from belief reports with the sentences (22) and (24) than from belief reports with (23) and (27). According to this line of reasoning, the truth-value of (25) and (26) should take into consideration the mode of presentation José associates only with 'Londres' and 'London', respectively. Only if a cognitive subject does not associate any mode of presentation with the version of the name in question, like João is with respect to

'Superman', we consider the mode of presentation she associates with one of its translations. The following modification of (T10.b) captures this intuition:

(T10.c) The cognitive content of a name 'N' for a cognitive subject S is the mode of presentation of its referent that S associates with 'N', unless S does not associate a mode of presentation with 'N', in which case the cognitive content of 'N' for S is the mode of presentation S associates with a translation of 'N'.

This modification might seem *ad hoc* at first sight, but it really is not. José's case is very similar to Lois Lane's case. Surely they differ in that 'Londres' and 'London' are in a relationship that 'Superman' and 'Clark Kent' are not, namely, that of being the translation of the other in another language. But this seems irrelevant from the cognitive point of view. What matters is that in both cases the speaker is ignorant of the fact that the names are co-referential, and that in both cases we do not think that such ignorance is reason to say they are irrational. Given that, a solution to one case should also yield a solution to the other. The proposed modification of (T10) is just like that: both José and Lois Lane believes and disbelieves two different cognitive contents *because* they associate two different modes of presentation of the same object with different names. The resulting thesis is unsurprisingly very much in the spirit of the Fregean Theory, with the caveat that that cognitive contents are not semantic contents.

Does (T10.c) have the final saying on what is the cognitive content of 'N' for S? I do not think so. Some cognitive subjects can have beliefs the cognitive content of which are most naturally taken to be the cognitive content of name

'N' for them, even though they do not associate a mode of presentation with 'N' or one of its translations. For instance, Krypto, Superman's dog, does not know any of Superman's names given that he does not speak any natural language[12]. However, it is not far fetched to suppose that he has beliefs about Superman.[13] Now suppose one of his beliefs is that that Superman flies. In this case, it seems that one could truly utter (28):[14]

(28) Kripto believes what is expressed by 'Superman flies'.

Just like the previous sentences, (28) is true if, and only if, Kripto believes the cognitive content of (2) for him. According to (T10.c), the cognitive content of (2) for Kripkto is the mode of presentation he associates with (2) or with one of its translations. But since Kripto does not speak any language that has the name 'Superman' or one of its translations, according to (T10.c), (28) turns out false, contrary to our intuitions.

Surely at this point one might want to keep (T10.c) and simply reject that non-linguistic animals (i.e., animals who do not speak a language that we can be translated into English, Portuguese, etc.) have beliefs.[15] I, however, am

[12]I suppose there is a case to be made that Kripto knows the name 'Superman' if he consistently responds to commands – like when someone asks where is Superman, and Krypto goes after him. But in that case, we can say that Kripto associates a cognitive content with the name, and the case will not require a modification of (T10.c). To get to an objection to (T10.c) we need to suppose that Krypto has not learned Superman's name. This is not a dubious assumption; dogs do not know their owners's name at least for the first couple of months they were adopted.

[13]See Bérmudez [1], Camp [8], Carruthers [10, 11], Glock [27, 28] and Rescorla [51].

[14]I do not mean to suggest that the sentence 'Kripto believes that Superman flies' entails (28), or that the latter is true in virtue of the truth of the former. All I am saying is that in this situation we can truly utter (28).

[15]See Davidson [15, 16] and Stich [68] and Dennett [17] to some extent.

not so inclined based on the overwhelming evidence we have that at least some non-linguistic animals have some beliefs[16]. But, even if one rejects Kripto's case as a real counterexample, we can still come up with other counterexamples to (T10.c). For instance, suppose that in Akkadian.[17] there are no names for Superman, but that Hamurabi, a competent speaker of Akkadian, uses only demonstratives ('this', 'that') to refer to Superman[18] Still, Hamurabi can have beliefs about Superman, and it seems that we could truly utter (29), even though there is no mode of presentation Hamurabu associates with (2) or one of its translations, since, by assumption, there are no names to refer to Superman:

(29) Hamurabi believes what is expressed by 'Superman flies'.

So, what could be the cognitive content of 'Superman' for Kripto and Hamurabi, and how could we modify (T10.c) to accommodate it?

Here it is worth pointing out that even though it is important that a theory makes room for speakers to associate the same cognitive content with both 'Superman' and 'Clark Kent', it seems undeniable that our linguistic practices are such that thinking of Superman as the man who wears red underwear over blue pants is most commonly associated with 'Superman' than 'Clark Kent'. If someone does not know that Superman is Clark Kent, and believes that

[16]Of course, such evidence might suggest that the conception of belief is radically different from the orthodoxy. In this case, I take this to mean that the orthodox conception of belief is incorrect and not that animals do not have beliefs and that we need to make adjustments on our account of beliefs.

[17]Akkadian is an extinct East Semitic language that was spoken in ancient Mesopotamia, which is believed to be the language Hamurabi spoke.

[18]See Braun [4, p. 570].

the guy named 'Clark Kent' flies around with his red underwear over blue pants, we would seriously doubt of his understanding of Jerry Siegel's comics. With this in mind, I propose that for non-linguistic cognitive subjects, like Kripto, the cognitive content of an expression for they is stipulated to be a mode of presentation that at the moment we take to best represent our practices, with certain modifications to be in tune with the cognitive ability of the cognitive subject in question. In Kripto's case, the cognitive subject is a dog, so the cognitive content of 'Superman' for him could be something along the lines *the man who wears very dark brownish gray thingy over blue thingy*, and the cognitive content of 'Clark Kent' is *the guy who wears glasses*. Perhaps even these cognitive contents are too sophisticated for a dog. Precisely which cognitive content it is will depend on which concepts Kripto is can acquire, which I will not address it here, as it would stray us from our main topic[19].

At this point we could be tempted to spell out a fourth version of (T10) to account for cases similar to Kripto. But I do not think that it will help us move forward with the project because we will eventually come up with a case that

[19]A different but related question is about when (28) and (30) below are true:

Kripto believes what is expressed by 'Clark Kent flies'.

Is it possible for they to differ in truth-value? In other words, can Kripto have two different ways of thinking and believing about Superman? Those are very interesting question but only tangential to my project. One way of answering these questions is to look at Kripto's behavior, and compare it with the behavior of those agents who hold beliefs about the guy named 'Superman' and 'Clark Kent'. To illustrate, suppose come up with experiments that lead us to conclude that Krypto is disposed to jump into Superman's arms when on a building on fire and when Superman is wearing a red cape. In this case it seems reasonable to infer that (28) is true. Now suppose, other reliable set experiments suggests that Krypto is not disposed to jump into Superman's arms in the same situation when Superman is wearing his glasses but not his cape. In this case, we can conclude that but (30) is false. These two results together might be taken to suggest that Krypto indeed has different ways of thinking about the same person.

this new version cannot accommodate,[20] which would require a new revision, which would most likely be subject to new counterexamples, and so on. The cases considered here, however, seem to suggest that what the cognitive content of 'N' for a speaker is varies according to certain features of the context: the agent, what she knows, her conceptual abilities, and sometimes our linguistic practices, etc. For this reason I propose that we go back to (T10) and leave it as general as it is, without trying to spell it out the details. This will give us the malleability required to deal with a variety of cases.

4.3.1 Frege's Puzzle (i)

I began section Section 4.3 raising a question: why is it that the cognitive content of 'Superman' and 'Clark Kent' for Lois Lane are different? We got an answers right at the beginning: different modes of presentation are retrieved when she hears or reads the name 'Superman' and 'Clark Kent', though I argues that it does not generalize to explain the cognitive content of names for cognitive subjects in all cases. Now we have a full answer to Frege's Puzzle (i).

How is it possible that Lois Lane believes that Superman flies but she does not believe that Clark Kent flies, given that Superman is Clark Kent and her beliefs are most naturally expressed by sentences that express the same semantic content, (2) and (5), respectively? The answer is: they express dif-

[20]Like Kripke's Paderewski case that suggest that different utterances of a name can have different modes of presentation associated with it.

ferent cognitive contents for Lois Lane because she associates different modes of presentation of Superman with the names that are part of the sentences.

As for the second version of Frege's Puzzle (i): how is it possible that Lois Lane believes that Superman flies and that Clark Kent does not fly, given that Superman is Clark Kent and her beliefs are most naturally expressed by sentences with contradictory semantic contents, (2) and (6)? The answer is: they do not express contradictory cognitive contents for Lois Lane because she associates different modes of presentation of Superman with the names that are part of the sentences. Consequently, the cognitive content of (6) for her is not a simple negation of (2) for her.

Unlike previous attempts to rescue the Millian Theory from Frege's Puzzle (i), in my view we do not have the problem of singling out beliefs from other representations. Lois Lane's beliefs that Superman flies and Clark Kent flies have two different cognitive contents, *the* σ *flies* and *the* ρ *flies*, respectively. They are *not* two different ways of thinking about the same belief content.

4.4 Belief Reports

Now that we have an answer to Frege's Puzzle (i), it is time to move on to Frege's Puzzle (ii): how is it possible for (7) and (8) to have different truth-values if they express the same semantic content?

(7) Lois Lane believes that Superman flies.

(8) Lois Lane believes that Clark Kent flies.

Here I will offer an account of the difference in the truht-value of (7) and (8) which maintains that 'to believe' is a two-place predicate between a cognitive subject and a cognitive content, and that (7) and (8) have different truth-values.

4.4.1 Context Sensitivity without Indexicality

My account is primarily inspired by MacFarlane's [40], Predelli's [43], Searle's [62] and Travis's [71] ideas on *context sensitivity without indexicality*, that is, the claim that the truth-value of some sentences is sensitive to contextual elements even though their semantic content is not. Consider this sentence:

(31) Bill cut the grass.

Aside from tense,[21] (31) seems a perfect good example of a sentence with no indexical expressions. This has commonly taken to mean two things. First, (i) different utterances of (31) express the same semantic content – if the semantic content of utterances of a sentence without indexicals is supposed to not depend on features of the context, any context in which it is uttered should express the same content. Second, (ii) different utterances of (31) will agree in truth-value when we evaluate them with respect to the same state of

[21] 'The grass' should be understood as a definite description and not a indexical expression. Following Russell's [54] treatment of definite descriptions, it may denote different portions of grass depending on the context, but it has the same semantic content throughout all contexts.

affairs, to use a neutral term for that against which we evaluate utterances[22]. For instance, if Bill mows the lawn, this is a state of affairs in which (31) is true. If Bill decides to do the dishes instead, this is an state of affairs in which (31) is false. A semantic theory that endorses (i) and (ii) is called 'Traditional Semantics'.

A common objection brought against Traditional Semantics by its opponents[23] is the following.

> [Consider] a situation in which Bill employed a pair of scissors to separate each of the grass blades along their vertical axis. Imagine now an utterance v of [(31)], taking place during a discussion pertaining to whether Bill mowed the lawn. In a scenario of this kind, at least if our pre-theoretic inclinations are to be trusted, v is false: Bill's actions do not count as cutting the grass, because, given the purpose at hand, cutting the grass involves shortening the blades by virtue of slicing them along a direction roughly parallel to the ground. But consider a less common setting, in which, due to superstitions regarding the number of grass blades in one's garden, Bill's employer demands that it be doubled by parting each leaflet in two. Take now an utterance v' of [(31)] in a setting of this kind; in this case, the situation at hand seems to qualify as a worldly

[22]State of affairs in some sense play the role of what Kaplan [35] calls 'circumstances of evaluation'. However, as it will become clear shortly, we should distinguish between them, which is why I opted for a different terminology.

[23]See [47, 48, 49].

condition with respect to which v' is true. [43, p. 174-5]

In the case described by Predelli, we have two different utterances of (31), v and v', that have different truth-values when evaluated against the same scenario where Bill employed a pair of scissors to separate each leaflet roughly perpendicular to the ground. However, this is inconsistent with Traditional Semantics: v and v' express the same semantic content, thus, they should have the same truth-value when evaluated against the same state of affairs.

Predelli [43, 44] argues that Bill's case is not a counterexample to Traditional Semantics. According to him, Traditional Semantics can accommodate the difference in the truth-value of v and v', and insist that they express the same content, as long as we distinguish between *state of affairs* and *worldly conditions*. This distinction will make clear that, in Bill's case, v and v' have different truth-values because they are evaluated against *different* state of affairs. But if they were evaluated against the *same* state of affairs, they will have the same truth-value, as it should be. Thus, the different in truth-value of v and v' does not falsify the main tenets of Traditional Semantics, namely, (i) and (ii). Let me begin explaining the distinction between state of affairs and worldly condition.

Take a look at the figure 4.2 below:

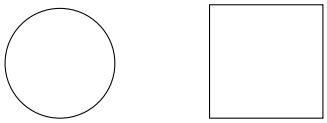

Figure 4.2

Looking at it at the way the paper is oriented with respect to your body right now, the square is to the right of the circle. But, if we turn the paper upside down, the square is to the left. Turn it 90° clockwise, and the square is below the circle. Turn it 90° counter clockwise, and the square is now above the circle. These are four different *state of affairs* that we get from cutting the same *worldly condition* from four different *evaluative perspectives*[24]. An evaluative perspective is similar to a point of view, and a worldly condition is what is common among different state of affairs that we get from different perspectives (of the same worldly condition, of course).

Now consider the following sentence:

(32) The square is to the right of the circle.

The truth-value of (32) will depend on against which state affairs we evaluate it. It is true in a state of affairs s we get by cutting the worldly condition from an evaluative perspective k where the paper is oriented with respect to your body in a way you can read this dissertation. This is because s is a state of affairs in which the square is to the right of the circle. (32) is false in the state of affairs s', s'' and s''' we get by cutting the same worldly condition from

[24]'Point of evaluation' in Predelli's terminology.

evaluative perspectives k', k'' and k''' where we turn the paper upside down, 90° clockwise and 90° counter clockwise, respectively. This is because in these state of affairs the square is not to the right of the circle.

Since (32) may have different truth-values depending on the state of affairs we use to evaluate it, to answer the question: is (32) true or false? The answer to this question clearly depends on which of the aforementioned evaluative perspectives is the relevant perspective. When we are not told which perspective is the relevant one, we need to look for clues in the context of utterance that indicates the *evaluative interest*. The evaluative interest depends on our goals and aims in the context of utterance, among other things. When someone asks a question of the relative position of two geometric figures in a text, it is safe to assume that her evaluative interest is in the evaluative perspective k, that is, where the paper is oriented with respect to your body in a way you can read it. In this case, (32) is true. There are, of course, exception. If I had asked the same question right after I asked you to imagine an world upside down, then the evaluative interest would most likely be in perspective k', and it would be false to say that (32) is true. The relevant evaluative interest does not have to be as explicit as in the examples I'm proposing. In any case, context of utterance is in charge of indicating the evaluative interest

One thing that it is important to notice is that when we talk about the truth-value of (32) in s, s', s'' and s''', the semantic content to be evaluated is the same. The change in truth-value is *not* because the semantic content expressed by (32) changes whenever we evaluate it in different state of affairs. Rather, it is because that against which we evaluate the same semantic content

changed. To give a analogy, the truth-value of (1) is different when we evaluate it in the actual world and an alternative world w_1 where Aristotle was born in Olympia, where Superman cannot fly. In the actual world it is true, but in w_1 it is false. But the difference in truth-value of (1) is not because its semantic content changes from the actual world to w_1. It is because that against which we evaluate its semantic content changes.

With the notions of state of affairs, evaluative perspective and worldly conditions, Predelli explains how two utterances of (31) have different truth-values without giving up (i) and (ii). In Bill's case, the worldly condition is: Bill split each leaflet using a pair of scissors. And we have two evaluative perspectives e and e': to cut the grass parallel to the ground and to cut the grass perpendicular to the ground, respectively. From e, the worldly condition yields a state of affairs s_e in which Bill did not cut the grass; after all, Bill did not cut the grass parallel to the ground. From e', the worldly condition yields a state of affairs $s_{e'}$ in which Bill cut the grass; after all, Bill cut the grass perpendicular to the ground.

When we consider (31) in a discussion about whether Bill mowed the lawn, it is clear that the evaluative interest is in having the grass cut parallel to the ground. So, the relevant evaluative perspective is e, in which case an utterance of (31), that is, v, is false. On the other hand, when we consider (31) in a context c' in which Bill's employer asks that the grass blades in his garden be doubled by parting each leaflet in two, the evaluative interest is in having the grass cut perpendicular to the ground. So, the relevant perspective is e', in which case an utterance of (31), that is, v', is true. Thus, (31) is false in s_e

and true in $s_{e'}$. That is to say, v is false and v' is true.

Note that we explain the difference in truth-value of v and v' without distinguishing their semantic content: the same sentence (31) expressing the same semantic content is evaluated against different state of affairs. Thus (i) is preserved. Predelli's account also preserves (ii) – different utterances of (31) agree in truth-value when evaluated in the same state of affairs. Any utterance of (31) evaluated against in s_e is false; and any utterance evaluated against $s_{e'}$ is true. Consequently, the difference in truth-value of v, v' does not entail a contradiction. In Predelli's view, two utterances u and u' entail a contradiction if, and only if, u and u' express the same semantic content and they have different truth-values with respect to the same state of affairs. V and v' do not fit this scheme because v is true in s_e and v' is false in a different state of affairs $s_{e'}$.

In the next section I will apply this model of explanation with state of affairs being distinguished from evaluative perspectives and worldly conditions to explain the truth-value of belief ascriptions and explain Frege's Puzzle (ii) and other related puzzles[25]

4.4.2 Frege's Puzzle (ii)

So, how is it possible for (7) and (8) to have different truth-values if they express the same semantic content?

[25]Predelli [43] has indicated that this model could be used to explain belief ascriptions, but has not developed it in details. Additionally, our proposals though similar in spirit differ significantly in details, as he endorses the Traditional Claim and I do not.

(7) Lois Lane believes that Superman flies.

(8) Lois Lane believes that Clark Kent flies.

Here I will adapt the strategy Predelli uses to explain the difference in truth-value of v and v'.

In this case, the relevant worldly condition is part of Lois Lane's cognitive life, specifically the cognitive contents inside and outside her belief box.[26] In my view, this can be illustrated as figure 4.3 below:

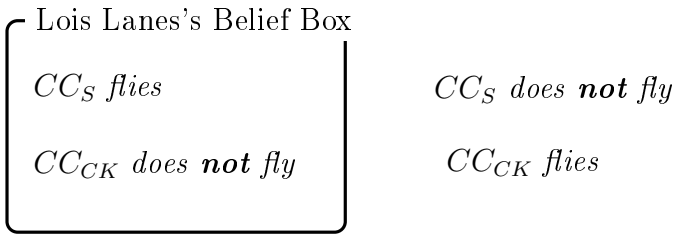

Figure 4.3

Such that 'CC_S *flies*', 'CC_{CK} *flies*', ' CC_{CK} *does* ***not*** *fly*', and 'CC_S *does* ***not*** *fly*' stand for the cognitive content for Lois Lane of the following sentences, respectively:

(2) Superman flies.

(5) Clark Kent flies.

[26]Keeping in mind that the concept of belief box is being used merely as a pedagogical aid.

(6) Clark Kent does not fly.

(33) Superman does not fly.

When discussing Lois Lane's beliefs, it is common to have in mind the cognitive contents she associates with 'Superman' and 'Clark Kent'. In my proposal this gives us two evaluative perspectives i and i': to have the cognitive content of (2) for Lois Lane in Lois Lane's belief box, and to have the cognitive content of (5) for Lois Lane in Lois Lane's belief box, respectively. From i, the worldly condition in figure 4.3 yields a state of affairs s_i in which Lois Lane believes that Superman flies because CC_S *flies* is the cognitive content of (2) for her and is in her belief box. From i', the worldly condition in figure 4.3 yields a state of affairs $s_{i'}$ in which Lois Lane does not believe that Superman flies because CC_{CK} *flies* is the cognitive content of (2) for her and is outside her belief box.

In my view, when we evaluate (7) and (8) against s_i, they come out true: in s_i Lois Lane believes that Superman flies and the sentences are true if, and only if, Lois Lane believes that Superman flies. On the other hand, when we evaluate the sentences against $s_{i'}$, both come out false: in $s_{i'}$ Lois Lane does not believe that Superman flies and the sentences are true if, and only if, Lois Lane believes that Superman flies. The difference in the intuitive truth-value of (7) and (8) that generates Frege's Puzzle (ii) is that we consider their truth-value when evaluated against different states of affairs. This is because in the set up of Frege's Puzzle (ii), our evaluative interest is in the cognitive content of the sentence in the 'that'-clause for the cognitive subject in question. And

because (7) and (8) have different *sentences* in their respective 'that'-clause, the relevant evaluative perspectives will be different, i and i', respectively.

To illustrate my view better let us consider two contrasting cases.

Fire Case

> Lois Lane is on top of a building that is on fire. You and I are debating on how to save her. We see that Superman is behind her and realize that if she jumps on his arms, then he could carry her to ground safe and sound. So we decide to tell Lois Lane that Superman is behind her.

In this scenario, it is perfectly reasonable for me to argue that we should yell (34) and not (35) because (7) is true but (8) is false.

(34) Superman is behind you.

(35) Clark Kent is behind you.

When we consider (7) in a discussion about what to yell to Lois Lane, as in the Fire Case, it is clear that our goal is to find an English sentence that, if uttered, motivates Lois Lane to act in a certain way. This indicates that evaluative interest in this case is in the cognitive content of the 'that'-clause of (7) and (8) for Lois Lane. Thus, when we judge (7) true, we look at the worldly conditions in figure 4.3 from the perspective of the cognitive content of the sentence in the 'that'-clause of (7) for her. As explained before, this yields a state of affairs s_i where Lois Lane believes that Superman flies. On the other hand, when we judge (8) false, we look at the worldly conditions

from a different perspective, that is, the perspective of the cognitive of the sentence in the 'that'-clause of (8) for Lois Lane. This yields a state of affairs $s_{i'}$ where Lois Lane does note believe that Superman flies. Thus, (7) is true in s_i and (8) is false in $s_{i'}$.

The difference in the intuitive truth-value of (7) and (8) under the proposed analysis is not problematic because they get different truth-values for they are evaluated against different state of affairs – just like there is no problem with (1) being true in the actual world and false in the w_1; it gets different truth-value when evaluated against different possible worlds. Strictly speaking, (7) and (8) have the same truth-value in the state of affairs.

Now consider a case in which (7) and (8) seem to have the same truth-value.

> *Counting Case*
>
> We are counting how many people are believed by Lois Lane as a person who flies. We start with Jonathan, and decide Lois Lane does not believe he flies. We move on to Lex Luthor, and decide she does not believe he flies. Then we consider Clark Kent.

At this point it is perfectly reasonable for me to argue that she believes Clark Kent flies, and that (8) is true, given that she believes that Superman flies, and that Superman and Clark Kent are the same person. If this makes sense, in the Counting Case both (7) and (8) are true.

According to my proposal, this is explained by the fact that the two sentences are evaluated against the *same* state of affairs, and it correctly predicts that they have the same truth-value. The argument offered is reasonable in

the Counting Case partially because our goal is to find how many people Lois Lane believes can fly, and for such a goal, the difference in the cognitive content that Lois Lane associates with the names 'Superman' and 'Clark Kent' is irrelevant. Our evaluative interest is in any cognitive content about a person that ascribes her the property of flying. From this evaluative perspective i'', the worldly conditions in figure 4.3 yields a state of affairs $s_{i''}$ in which Lois Lane believes that Superman flies because CC_S *flies* is about Superman and is in Lois Lane's belief box. Thus, (8) is true in $s_{i''}$, and so is (7).

Interestingly, (8) gets different truth-values in the Fire Case and in the Counting Case. This, however, does not entail a contradiction because in my view we have a contradiction if, and only if, a semantic content (and derivatively a sentence) has different truth-values in the same state of affairs. And (8) gets different truth-values in different state of affairs; just like there is no contradiction in (1) getting different truth-values in different worlds.

To sum up, (7) and (8) differ in truth-value not because they express different semantic contents, as the Fregean Theory proposes. Their semantic content is the same, as the Millian Theory advocates, and their truth-value is the same when we evaluate them against the same state of affairs. But when we evaluate them in different states of affairs, as I argued to be the case in Frege's Puzzle (ii), they might differ in truth-value. This, however, does not entail a contradiction.

In general, the truth-conditions of belief reports are given by (T12) below[27]:

[27]In principle, (T12) can be even more generalized to all mental states report by replacing 'to believe' by the relevant cognitive verb.

(T12) $\ulcorner S$ believes that $P\urcorner$ is true in a state of affairs s if, and only if, S believes that P in s.

Whether S believes that P in s depends on the worldly conditions w and the evaluative perspective e.

I will spend the next two sections explaining how (T12) accounts for some famous puzzling cases we find in the literature.

4.4.3 (36) & (37)

Recall the story about José in Section 4.3. He is ignorant that 'Londres' is the translation of 'London' in Portuguese and it seems that both (36) and (37) below are true:

(36) José believes that London is pretty.

(37) José believes that London is not pretty.

What needs to be explained in this case is how it is possible for José to believe a cognitive content and its negation[28], without him being irrational. This case is very similar Lois Lane's case where (7) is true and (8) is false, if we take the latter to mean that Lois Lane believes that Clark Kent does not fly. And as it will become clear, the solution to the puzzle is very similar too.

The relevant worldly conditions in José's case are the cognitive contents about London in José's belief box represented by the figure below:[29]

[28] See explanation in **Second Thesis**, page 58.
[29] Section 4.3

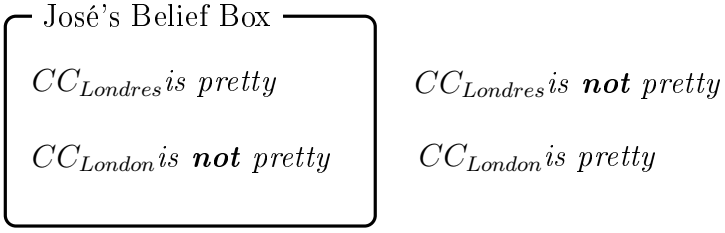

Figure 4.1

When we truly report José's beliefs with utterances of (36) and (37), we (generally) intend to be sensitive to the known fact that José associates different cognitive contents with different sentences in different languages. This suggests that the evaluative interest we have in mind when judging (36) and (37) are different. We consider (36) true because the evaluative perspective l we use to look at the worldly conditions in figure 4.1 is the cognitive content José associates with (22) – Londres é bonita. This yields a state of affairs s_l in which José's believes that London is pretty because $CC_{Londres}$*is pretty* is the cognitive content of (23) for him, and it is in his belief box. So, (36) is true in s_l.

On the other hand, we consider (37) false because we look at the worldly conditions from a different evaluative perspective. With (37), the evaluative perspective l' we use is the the cognitive José (currently) associates with (24) – London is not pretty. This yields a state of affairs $s_{l'}$ in which José believes that London is not pretty because CC_{London}*is* ***not*** *pretty* is the cognitive content of (24) for him, and it is in his belief box[30]

[30]Note that my account of (36) and (37) is very similar to (7) and (8), which further

So, to answer the question Kripke raised in his original paper, "Does José believes that London is pretty?", is yes and no, depending on the evaluative interest and, consequently, on the evaluative perspective.

4.4.4 (38) & (39)

Lastly, I will explain how my account successfully accommodates cases of multiple interactions of attitude verbs. Consider the following case:

> *Confidant Case*
>
> Jonathan Kent is Superman's father and confidant. He knows that Superman is Clark Kent, and thinks about them in the same way – *his son*, for instance. Superman told him about Lois Lane and that she does not know about his secret identity.

In this case, it seems that (38) is true but that (39) is false:

(38) Jonathan believes that Lois Lane believes that Superman flies.

(39) Jonathan believes that Lois Lane believes that Clark Kent flies.

The intuitive truth-value of (38) and (39) is a problem to my theory. According to it, they express the same semantic content, and (38) is true if, and only if, (39) is true, contrary to our intuitions.

The problem generated by the Confidant Case seems similar to the problem Frege's Puzzle (ii) raises: from a Millian perspective, (7) and (8) express the

supports my claim on page 65 that replacing (T10.b) by (T10.c) is not *ad hoc*.

same semantic content, and so either they same truth-value, but intuitively they have different truth-values.

(7) Lois Lane believes that Superman flies.

(8) Lois Lane believes that Clark Kent flies.

One would naturally think that the same line of explanation can be extended to (38) and (39). However, this will not do. My proposed account of (7) and (8) is successful because (i) our evaluative interest in the Frege's Puzzle (i) is sensitive to differences in the name used to refer to Superman; (ii) the cognitive contents of (2) and (5) for Lois Lane are different, with the difference being in the cognitive content of the names 'Superman' and 'Clark Kent' for her; (iii) the worldly condition is such that only one of the them is in her belief box.[31]

(2) Superman flies.

(5) Clark Kent flies.

For the same model of explanation to explain away the contradiction with (38) and (39) in the Confidant Case, we need to have the same relevant elements: (i) our evaluative interest in the Confidant Case has to be sensitive to differences in the name used to refer to Superman in the belief reports; (ii) the cognitive contents of (7) and (8) for Jonathan have to be different, with the difference being in the cognitive contents of 'Superman' and 'Clark Kent'

[31]Section 4.4.2, page 77.

for Jonathan; and (iii) the worldly condition has to be such that one of them is in his belief box, as represented by the figure below:

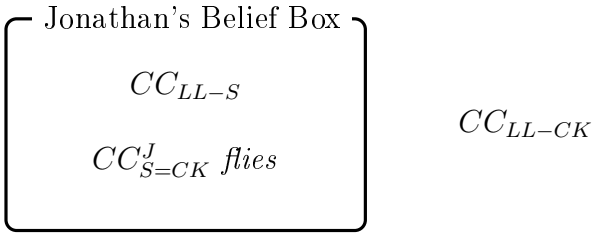

Figure 4.4

such that 'CC_{LL-S}' and 'CC_{LL-CK}' stands for the cognitive content of (7) and (8) for Jonathan, respectively, and 'CC^{J}_{S-CK} *flies*' stands for the cognitive content of (2) and (5) for Jonathan.

Now we explain the difference in the truth-value of (38) and (39) in the usual manner. In the context of the Confidant Case, when we judge (38), our evaluative interest is in the cognitive content of (7) for Jonathan. Given this evaluative perspective f and the worldly condition in figure 4.4, we get a state of affairs s_f in which Jonathan believes that Lois Lane believes that Superman flies because the cognitive content of (7) for Jonathan, namely, CC_{LL-S}, is in his belief box. Thus, (38) is true in s_f. On the other hand, when we consider (39), our evaluative interest shifts to the cognitive content Jonathan associates with (8). From this evaluative perspective f' and the worldly condition in figure 4.4, we get a state of affairs $s_{f'}$ in which Jonathan does not believe that Lois Lane believes that Clark Kent flies because the cognitive content of (8)

for Jonathan, namely, CC_{LL-CK}, is not in his belief box. Thus, (39) is false in $s_{f'}$. The intuitive difference in the truth-value of (38) and (39) does not entail a contradiction because we get them by evaluating the (same) semantic content is against *different* state of affairs.

Unfortunately, things are not that simple. In the Confidant Case, we have (i) and (iii). But it is not clear that we have (ii) because it is not clear that we have the resources necessary to distinguish the cognitive contents of (7) and (8) for Jonathan.

According to (T9), the cognitive content of a sentence for a cognitive subject is a function of the cognitive contents of its basic parts *for the cognitive subject*. This together with the assumption that the cognitive content of 'Superman' and 'Clark Kent' for Jonathan is the same entails that the cognitive content of (7) and (8) is the same as well. It follows from this that, despite my desire to say otherwise, CC_{LL-S} and CC_{LL-CK} are the same cognitive content, and the worldly condition represented in figure 4.4 is not possible, unless we say that Jonathan is irrational for believing and disbelieving the same cognitive content.[32] Thus, my account falls short of explaining the *prima facie* contradiction in (38) and (39).

A straightforward way of solving this problem is to argue that the cognitive contents of 'Superman' and 'Clark Kent' in (7) and (8) for Jonathan are actually different. This is the strategy I will pursue. I will argue that the cognitive contents of 'Superman' and 'Clark Kent' for Jonathan in (7) and (8)

[32]See **Second Thesis**, page 58.

are different because they are the cognitive contents Jonathan takes them to have *for Lois Lane*, and he takes them to be different *for her*. Thus, CC_{LL-S} and CC_{LL-CK} are indeed different.

Jonathan in the Confidant Case is in a very similar position as we are: we all have enough information about Lois Lane to infer that she has two different ways of thinking about Superman. Surely we might not know exactly how she thinks about Superman, which concepts are involved or how Superman is represented, but we know that the cognitive content of 'Superman' and 'Clark Kent' for her is different,[33] and that is enough. We can now think of Superman in two different ways: as *the man she thinks in one way* and *the man she thinks in another way*, such that 'one way' and 'another way' stand for Lois Lane's way of thinking of Superman. We do not know which cognitive content 'one way' and 'another way' stand for. But that is not a problem; all we need to believe is that they are different ways. This is why CC_{LL-S} and CC_{LL-CK} – the cognitive contents of (7) and (8) for Jonathan – are different. The first is roughly *Lois Lane believes that the man she thinks* in one way *flies*, and the second is something along the lines *Lois Lane believes that the man she thinks* in the other way *flies*.

This solution to the puzzle generated by the Confidant Case becomes very attractive if we note that this is roughly how we have been discussing the cognitive contents of 'Superman' and 'Clark Kent' for Lois Lane in this chapter to talk about the truth-value of (7) and (8). (7) is true because Lois Lane

[33]Technically, what we, as ordinary people, know is that she has two ways of thinking about Superman associated with the names 'Superman' and 'Clark Kent'.

ascribes the property of flying to Superman when she thinks of him in one way (in the way she associates with 'Superman'), and (8) is false because she does not ascribe the property to Superman when she thinks of him in another way (in the way she associates with 'Clark Kent'). Despite the fancy terminology of I have been using, the only concepts we really need to be in a position to borrow Lois Lane's ways of thinking about Superman (in the way just described) are concepts of which we have some implicit and intuitive grasp, like the concept of ways of thinking of a person, of believing, etc.

This way out of this conundrum generated by multiple iterations of attitude verb is somewhat Fregean in spirit. The general strategy is to suppose a shift in the cognitive content of names (and other linguistic expressions) in belief contexts, just like Frege suggested. The cognitive content of the name 'Superman' for Jonathan is one when it is in (2) and and another when it is in (7). However, unlike Frege suggested, this shift in cognitive content of the name does not entail a shift in the object it is about, or in the referent of the name, much less in the semantic content. The cognitive content of 'Superman' in (2) and (7) for Jonathan, namely, *the man Lois Lane thinks in one way* and *the man Lois Lane thinks in another way* are *both* about Superman and *not* about Lois Lane's cognitive.

In the Confidant Case, the cognitive content of 'Superman' and 'Clark Kent' in (7) and (8) for Jonathan *match* the cognitive content of the names in (2) and (5) for Lois Lane, in the sense that Lois Lane has different ways of thinking about Superman, and so does Jonathan. But there might not be a match when we are mistaken about someone else's way of thinking about an

object, as is Lois Lane situation in the following case:

> *Party Case*
>
> At the end of the year party at the Daily Planet, Clark Kent brings his father, Jonathan. Before introducing his father to Lois Lane, Clark Kent tells him that Lois Lane does not know about his secret identity, and asks him to keep this secret. At some point during the party, Lois Lane and Jonathan are talking about a story she is writing on how Superman saved the city once again. Jonathan agrees with Lois Lane that they are very lucky to have Superman protecting the city, and behaves in a way that does not reveal to her that he knows about his son's secret identity. The party ends, and Lois Lane has no clue that Clark Kent is Superman, much less that Jonathan knows it.

In this case, we are inclined to think that (40) is true whereas (41) is false:

(40) Lois Lane believes that Jonathan believes that Superman flies.

(41) Lois Lane believes that Jonathan believes that Clark Kent flies.

In my view, we explain the difference in their truth-value by a difference in the state of affairs against which the same semantic content is evaluated. In the Party Case, we have the following relevant worldly conditions:

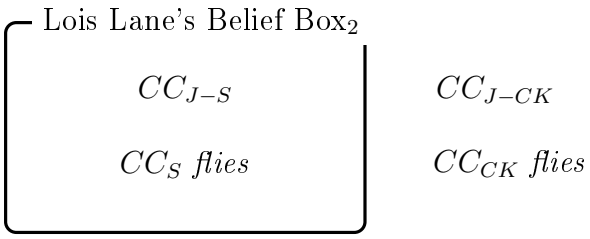

Figure 4.5

such that, 'CC_S *flies*', 'CC_{CK} *flies*', 'CC_{J-S}' and 'CC_{J-CK}' stand for the cognitive content of (2), (5), (42) and (43) for Lois Lane, respectively.

(42) Jonathan believes that Superman flies.

(43) Jonathan believes that Clark Kent flies.

The cognitive content of 'Clark Kent' and 'Superman' in (42) and (43) for Lois Lane are different because they are the cognitive contents Lois Lane takes them to have *for Jonathan*, and she clearly believes them to be different in the Party Case. For all Lois Lane knows, Jonathan thinks of Superman in two different ways, just like her. After all, she does not know about Clark Kent's secret identity, and so she has no reason to believe that Jonathan knows about it. Thus, according to Lois Lane, Jonathan thinks of Superman in two different ways: as *the man he thinks in one way* and *the man he thinks in another way*. This is why CC_{J-S} and CC_{J-CK} – the cognitive content of (42) and (43) for Lois Lane, respectively – are different. The first is, roughly, *Jonathan believes that the man he thinks* in one way *flies*, and the second is, roughly, *Jonathan believes that the man he thinks* in the other way *flies*. There is no match

between the cognitive content of 'Superman' and 'Clark Kent' in (42) and (43) for Lois Lane and the cognitive content of the names in (2) and (5) for Jonathan because Lois Lane is mistaken about Jonathan's cognitive life (due to the fact that she is unaware of Superman's identity).

Now we explain the difference in the truth-value of (40) and (41) in the usual manner. Like in the context of Frege's Puzzle (ii), when we report Lois Lane's beliefs about Superman, we generally intend to be sensitive to the known fact that she thinks of him in two different ways, which are associated with different names. So the relevant evaluative perspective p we use to look at the worldly conditions when we judge (40) to be true is the cognitive content of (42) for Lois Lane. This yields a state of affairs s_p in which Lois Lane believes that Jonathan believes that Superman flies because CC_{J-S} is the relevant cognitive content and is in her belief box. Thus, (40) is true in s_p. On the other hand, when we consider (41), we look at the cognitive content of (43) for Lois Lane. So the relevant evaluative perspective p' we use to look at the worldly conditions when we judge it to be true is the cognitive content of (43) for Lois Lane. This yields a state of affairs $s_{p'}$ in which Lois Lane does not believe that Jonathan believes that Clark Kent flies because CC_{J-CK} is the relevant cognitive content and is not in her belief box. So, (41) is false in $s_{p'}$.

The general idea of the shift in the cognitive content of a name 'N' for a cognitive subject S when 'N' appears in sentence with multiple iterations of attitude verbs is captured by the following thesis:

(T13) The cognitive content of a name 'N' in $\ulcorner S'$ believes that S believes that N is $F\urcorner$ for S' is the cognitive content S' believes

to be the cognitive content of 'N' for S.

A little bit of history

The puzzle generated by multiple iterations of attitude verbs can be traced back to an objection Mates [41] brought up against Carnap's analysis of indirect belief reports, also known as *Mates's Problem*. I do not want to go into the details of the debate[34], but it is worth briefly discussing one of the consequences pointed out by Putnam [45]. According to him, Mates's objection can be used to argue that "the widely held view that expressions with the same sense [semantic content] are interchangeable in all contexts" is false – a conclusion that many philosophers are eager to avoid. Here I will briefly explain how my proposed theory deals with Mates's objection.

Mates [41, p.125–6] starts off with the assumption that for any two sentences D and D', if they are synonymous, i.e., have the same meaning, then the following sentences are synonymous as well:

(44) Nobody doubts that whoever believes that D, believes that D.

(45) Nobody doubt that whoever believes that D, believes that D'.

Assuming that synonymous expression are interchangeable in all contexts, as it seems reasonable, and given that D and D' are synonymous, then (44) and (45) cannot differ in truth-value, or else we have a contradiction. However, Mates points out, there are putative counterexamples. To borrow Church's

[34] See Burge [6], Carnap [9], Church [12], Mates [41], and Putnam [45].

[12] example, suppose (as it is reasonable) 'fortnight' and 'period of (consecutive) fourteen days' are synonymous. In this case, (46) and (47) below are synonymous too:

(46) The seventh consulate of Marius lasted less than a *fortnight*.

(47) The seventh consulate of Marius lasted less than *a period of (consecutive) fourteen days*.

Following Mates, sentences (48) and 49 below should have the same truth-value:

(48) Nobody doubts that whoever believes that the seventh consulate of Marius lasted less than a fortnight believes that the seventh consulate of Marius lasted less than a *fortnight*.

(49) Nobody doubts that whoever believes that the seventh consulate of Marius lasted less than a fortnight believes that the seventh consulate of Marius lasted less than *a period of (consecutive) fourteen days*.

Whereas (48) is no doubt true, (49) seems false. Given all we know, it is possible for someone, say Lois Lane, to believe that the seventh consulate of Marius lasted less than a *fortnight* but not believe that the seventh consulate of Marius lasted less than a *period of (consecutive) fourteen days*. Thus, (48) and (49) can have different truth-values. This means that (46) and (47) are not synonymous after all, which ultimately entails that our supposition that 'fortnight' and 'period of (consecutive) fourteen days' are synonymous is false.

If Mates's argument is correct, then we have problem because 'fortnight' and 'period of (consecutive) fourteen days' are synonymous.

Several attempts have been made to reply to Mates's problem. Putnam [45] and Fine [22] argue that whereas 'fortnight' and 'period of (consecutive) fourteen days' are synonymous, (48) and (49) are not because they differ in their logical form. Salmon argues that (48) and (49) have the same truth-value despite appearances to the contrary.[35]

I find these these replies unconvincing because they dismiss at least one of the intuitions that generates the problem: (a) 'fortnight' and 'period of (consecutive) fourteen days' are synonymous; (b) (46) and (47) are synonymous; and (c) apparent different in truth-value of (48) and (49). On the other hand, in my view we have the resources to explain (c) without dismissing other intuitions if we replace the names in (T13) for concepts – call the resulting thesis (T13*).

For the sake of simplicity, let us suppose a universe with only Lois Lane and Jonathan. For all Jonathan knows (as for all we know), it is possible that the cognitive contents of 'fortnight' and 'a period of (consecutive) fourteen days' differ for Lois Lane, say *half the number of days of the shortest month in non-leap years* ('α', for short) and *two weeks* ('β', for short). Thus, according to (T13*), the cognitive contents of the sentences below for Jonathan are different:

(50) Lois Lane believes that the seventh consulate of Marius lasted

[35] See Salmon [55, 56, 60] in reply to Schiffer [61].

less than a *fortnight*.

(51) Lois Lane believes that the seventh consulate of Marius lasted less than a *period of fourteen (consecutive) days*.

The cognitive content of (50) for Jonathan is something like *Lois Lane believes that the seventh consulate of Marius lasted less than* α, which will be abbreviate as 'CC^{Jon}_{LL-F}'. And the cognitive content of (51) for Jonathan is something like *Lois Lane believes that the seventh consulate of Marius lasted less than* β, which will be abbreviate as 'CC^{Jon}_{LL-P}'. Since α and β are different cognitive contents (*half the number of days of the shortest month in non-leap years* and *two weeks*, respectively), so are CC^{Jon}_{LL-F} and CC^{Jon}_{LL-P}

By compositionality of cognitive content, the cognitive content of (52) and (53) below for Jonathan are also different:

(52) If Lois Lane believes that the seventh consulate of Marius lasted less than a fortnight, then she believes that the seventh consulate of Marius lasted less than a *fortnight*.

(53) If Lois Lane believes that the seventh consulate of Marius lasted less than a fortnight, then she believes that the seventh consulate of Marius lasted less than a *period of fourteen (consecutive) days*.

The cognitive content of (52) for Jonathan is something like *if Lois Lane believes that the seventh consulate of Marius lasted less than* α*, then she believes that the seventh consulate of Marius lasted less than* α, which will be abbreviate as 'CC^{Jon}_{LL-FF}'. And the cognitive content of (53) for Jonathan is something

like *if Lois Lane believes that the seventh consulate of Marius lasted less than α, then she believes that the seventh consulate of Marius lasted less than β*, which will be abbreviate as 'CC^{Jon}_{LL-FP}'. Again, since α and β are different cognitive contents, so are CC^{Jon}_{LL-FF} and CC^{Jon}_{LL-FP}.

With further assumptions that Jonathan believes that Lois Lane is rational, we get that Jonathan does not doubt CC^{Jon}_{LL-FF}, but he doubts CC^{Jon}_{LL-FP}. This worldly condition is represented in figure (4.6) below:

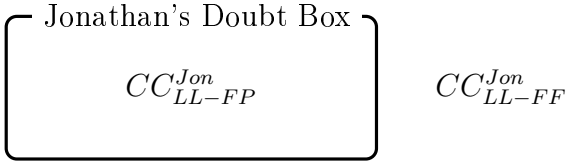

Figure 4.6

Figure 4.6 is only a partial representation of the relevant worldly conditions to evaluate (48) and (49). To get the complete worldly conditions we need to consider the cognitive content of other sentences for both Lois Lane and Jonathan. For the sake of brevity, I will focus the discussion the cognitive content of (52) and (53) for Jonathan. The reader interested in reconstructing the reasoning in full should see Appendix A.

Part of what explains why in this case we judge (48) true and (49) false is that we have in mind that people could be like Lois Lane and associate different cognitive contents with 'fortnight' and 'period of fourteen (consecutive) days', say *half the number of days of the shortest month in non-leap years* and *two*

weeks. This suggests that the evaluative interest when judging (48) and (49) is in the cognitive content of the 'that'-clause for Jonathan.[36]

When we judge (48) true, the evaluative perspective n we use to look at the worldly conditions in figure 4.6 is the cognitive content Jonathan associates with (52).[37]

This yields a state of affairs s_n in which nobody doubts that whoever believes the seventh consulate of Marius lasted less than a fortnight, then she believes that the seventh consulate of Marius lasted less than a *fortnight* because CC^{Jon}_{LL-FF} is the cognitive content of (52) for Jonathan and is not in his doubt box.

On the other hand, when we judge (49) to be false, the evaluative perspective n' we use to look at the worldly conditions is the cognitive content Jonathan[38] associates with (53).[39]

This yields a state of affairs $s_{n'}$ in which Jonathan doubts that whoever believes he seventh consulate of Marius lasted less than a fortnight, then he believes that the seventh consulate of Marius lasted less than a *period of four-*

[36] And Lois Lane. See Appendix A.
[37] And (62) below:

(62) If Jonathan believes that the seventh consulate of Marius lasted less than a fortnight, then he believes that the seventh consulate of Marius lasted less than a *fortnight*.

[38] And Lois Lane. See Appendix A.
[39] And (63) below:

(63) If Jonathan believes that the seventh consulate of Marius lasted less than a fortnight, then he believes that the seventh consulate of Marius lasted less than a *period of fourteen (consecutive) days*.

teen (consecutive) days because CC^{Jon}_{LL-FP} is the cognitive content of (53) for Jonathan and is in his doubt box.

In my view, we explain away Mates's problem because we explain that the difference in truth-value of (48) and (49) does not entail a contradiction, as Mates and Putnam suggested. They have different truth-values because we evaluate them with respect to *different* state of affairs. But this does not entail contradiction because we have a contradiction if, and only if, a semantic content gets different truth-values when evaluated against the *same* state of affairs. Consequently, in my view we block Mate's argument without giving up the intuition 'fortnight' and 'period of fourteen (consecutive) days' are synonymous (as a Fregean would argue) or that (46) and (47) are synonymous (as Putnam and Fine argue) or that (48) and (49) have different truth-values (as Salmon argues).

4.5 Reply to Speaks & Salmon

We are now in position to understand better where Speaks's and Salmon's argument went wrong. Starting with Speaks's argument, he took the validity of the Proposition Argument to suggest that the semantic and cognitive content are the same thing.

First, I need to define validity. Since in my view the truth-value of sentences are relativized to *state of affairs*, so will validity:

(V) An argument is valid if, and only if, it is impossible for the premises to be true in a state of affairs s and conclusion false in s.

With this notion of validity, I can explain how the Proposition Argument is valid:

Proposition Argument:

(9.1) John said *that Aristotle was born in Stagira.*

(9.2) It is true *that Aristotle was born in Stagira.*

(9.3) Though it is true *that Aristotle was born in Stagira*, it would have been false if things had gone differently.

(9.4) Mary believed *that Aristotle was born in Stagira.*

(9C) Therefore, there is *something* which John said, which was true, which could have been false, and which Mary believed.

This argument is valid because when the premises are true evaluated with respect to the same state of affairs, the conclusion is also true. Invariantly, the state of affairs in which the premises are all true are those we get from an evaluative perspective a where we look at cognitive contents about Aristotle and the property of being born in Stagira, regardless of how John and Mary think of Aristotle. From this perspective a, the worldly conditions represented by figure 4.7 below yields a state of affairs s_a in which John said that Aristotle was born in Stagira, for he has a cognitive content ascribing the property of

being born in Stagira to Aristotle in his *saying* box, so to speak. Similarly, Mary believes that Aristotle was born in Stagira because she has a cognitive content ascribing the property of being born in Stagira to Aristotle in her belief box.

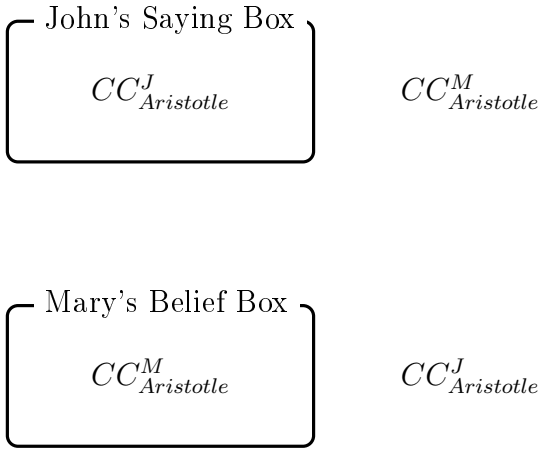

Figure 4.7

(9C) is also true in s_a because there is something that John said, which was true, and that Mary believed, namely that Aristotle was born in Stagira, which is the semantic content of the 'that'-clause. To repeat, this is true because $CC^{J}_{Aristotle}$ and $CC^{M}_{Aristotle}$ are about the same object and property, and from evaluative perspective a, this means that they say and believe the same thing, namely, that Aristotle was born in Stagira. Thus, from this point of view (evaluative perspective a) there is something that John said and that Mary believed, and the conclusion is true.

There are evaluative perspectives in which the worldly condition in figure

4.7 yield a state of affairs in which John said that Aristotle was born in Stagira but that Mary does not believe it, and so the premises are not all true. For instance, from an evaluative perspective a' where we consider the cognitive content of (1) for John, we get a state of affairs $s_{a'}$ in which John says that Aristotle was born in Stagira but Mary does not believe it.

(1) Aristotle was born in Stagira.

This is because $CC^{J}_{Aristotle}$ is the cognitive content of (1) for John, and it is in John's saying box but not in Mary's belief box.

While this fact does not invalidate the argument, some might think that, given the worldly conditions in figure 4.7, it is an undesirable consequence of my view that there is a state of affairs in which (9.1) and (9.1) have different truth-values. But I do not think that this is true. There is an intuitive, and *not* weak, sense in which to say that John and Mary believe the same thing is false. If we suppose that Mary and John think of Aristotle in a way that does not overlap, the cognitive content of their beliefs will be different. In this case, from an evaluative perspective that focus on the cognitive content of (1) for John (or Mary), they do not say and believe the same thing. Stich [69, p.57–8] offers a more dramatic case in his objection to what he calls 'the narrow causal theories of belief':

> A majority of literate Americans over the age of seven have a belief which they express by affirming '$E = mc^2$'. And it is not implausible to suppose that, by the standards of the causal account, this belief is identical to the one that a sophisticated physicist expresses

> with the same sentence. For scientifically unsophisticated people, however, the belief underlying their affirmation of '$E = mc^2$' is a largely isolated one. In reflecting on these cases there is a *substantial intuitive* pull in the direction of denying that the scientist and the man in the street are expressing the same belief. [my emphasis]

Routley [53, p.390] makes a similar point for concepts:

> The notion of 'our concepts' or 'our conceptual scheme' (with the 'our' not too tightly specified, but perhaps excluding temporally or culturally remote humans) is something of a myth: concepts, discriminatory abilities, vary enormously among humans as among animals. (In a strict philosophical sense, which there is a point in inventing, and which many philosophers are prepared to accept, there is no the concept of a bone: such a unique concept supposes a uniformity that does not occur.)

Of course, this is not to say that they do not say that there is no evaluative perspective or point of view from which they say and believe the same thing[40]. It is to just acknowledge that there is a difference in their cognitive content that from some evaluative perspectives is relevant. The fact that in my account there is a state of affairs in which the premises are not all true is, in fact, an advantage.

[40]Stich [69, p.58] recognizes it too.

As for Salmon's argument, it should be clear by now that accepting that (a) 'that Ted Kennedy is tall' refers to a semantic content, namely, $<$*Ted Kennedy*, *to be tall*$>$ – such that '*Ted Kennedy*' and ; *to be tall*' stand for Ted Kennedy himself and the property of being tall, respectively –, and that (b) (10) is true if, and only if, Tom believes that Ted Kennedy is tall does not entails that the cognitive content of Tom's belief is $<$*Ted Kennedy*, *to be tall*$>$. In my view, from an evaluative perspective t where we focus on the cognitive content of (56) for Tom, Tom believes that Ted Kennedy is tall in virtue of having the cognitive content of (56) in his belief box.

(56) Ted Kennedy is tall.

4.6 Objections

In this last section I will consider four objections to my view.

Objection 1 In my account, a difference in the truth-value of (7) and (8) in the Fire Case arises because we evaluate them from perspectives that focus on Lois Lane's ways of thinking of Superman. On the other hand, in the Counting Case, they have the same truth-value because we focus on the objects (and properties) the cognitive contents are about. One might try to reduce my explanation to the famous distinction between *de re* and *de dicto* beliefs. According to this objection, when I talk about perspectives that focus on the mode of presentation of cognitive contents, we can understand it as looking at *de dicto* beliefs. And when I talk about perspectives that focus on the objects

(and properties) about which cognitive contents are, we can understand as looking at *de re* beliefs. In this way, in the Fire Case, we look at *de dicto* beliefs Lois Lane has about Superman to evaluate the truth-value of (7) and (8). And in the Counting Case, we look at *de re* beliefs Lois Lane has of Superman.

Reply: I think this objection overlooks important details of my account and of the discussion of *de re* and *de dicto* beliefs. Some philosophers argue that *de re* and *de dicto* beliefs differ with respect to the way the object is represented[41]. In this way, a cognitive content is either *de re* or *de dicto* but not both. Thus, if Lois Lane has a *de dicto* belief about Superman that he flies, and a *de re* belief of him that he flies, then she believes two different cognitive contents. On the other hand, in my accoumt, if Lois Lane believes that the man who wears red underwear over blue pants flies and she believes that Superman flies, it does not necessarily follows that she believes two cognitive contents. Theses state of affairs can come from different ways of cutting one worldly condition where Lois Lane has only one cognitive content, say, CC_S *flies* in her belief box. Surely one might argue that we can cash out the distinction between *de dicto* and *de re* in this way, but this is not trivial, as implied in the objection, and needs to be argued.

[41]See Burge [7] and Evans [21].

Objection 2 My account of the truth-value of multiple iterations of attitude verbs, as in (38) and (39), is similar to Frege's account, in that it suggests that attitude verbs creates a special context that forces a shift in the cognitive content of names within their scope. Giving the similarities, one might think that the account I defend is subject to similar if not the same criticisms against Frege's account.

Reply: I take that the main criticism to Frege's view on this issue is an objection raised by Davidson [14] on the unlearnability of language.[42] As he notes, we are able to understand a great number of sentences in language, and in principle an infinite number of them. However, this would be an impossible task if we could not get to the meaning of complex sentences from the meaning of its basic parts, and how to combine them. In this way, if a speaker knows the meaning of the names 'Superman', 'Lois Lane' and the predicate '_ loves _', then she is in a position to know the meaning of the sentences below:

(57) Superman loves Lois Lane.

(58) Superman loves Superman.

(59) Lois Lane loves Lois Lane.

(60) Lois Lane loves Superman.

This feature of language naturally poses constraints to theories about the semantic content. One of them is that it should ascribe semantic contents

[42]See also Kripke [39].

to linguistic expressions that can be fully grasped by speakers. If a semantic theory deviates from it, then speakers would not be able to get to the the meaning of complex expressions, like sentences, from their knowledge of the meaning of the basic parts of a language. The problem for Frege, as Davidson argues, is that the view he advocates [26] seems to deny this. In his view, the name 'Superman' has infinitely different meanings (semantic contents), not all of which finite beings like us can grasp. For according to Frege, 'Superman' in each of the sentences below has different semantic contents.[43]

(2) Superman flies.

(7) Lois Lane believes that Superman flies.

(38) Jonathan believes that Lois Lane believes that Superman flies.

In (2) 'Superman' expresses the semantic content $content^1_{SM}$, a mode of presentation of *Superman* himself, as explained in Section 2.2.2. In (7), however, there is a shift in the semantic content of 'Superman' because it is within the scope of an attitude verb, namely, 'to believe'[44]. In (7), 'Superman' expresses a semantic content $content^2_{SM}$, which is a mode of presentation of $content^1_{SM}$,

[43] They also have different referents but this is not much relevant for my point.

[44] The reason for this shift has to do with the different in the truth-value of (7) and (8). Frege takes that the intuitive different in their truth-value entails a difference in the referent of the expressions, because he takes that the truth-value of a sentence is a function of the referents of the expressions. Since the only difference between the sentences is in the name used to refer to Superman, Frege concludes that their referent is different. The way Frege cashes this out is by supposing that names in the scope of attitude verbs refer to the sense of the name. This change of referent in the name entails a difference in its sense given Frege's previous commitment that difference in the referent of the name entails difference in its sense.

that is, the semantic content of 'Superman' outside the scope of the attitude verb. In (38) there is another shift in the semantic content of 'Superman', and now it expresses a different semantic content $content^3_{SM}$ that is a mode of presentation of $content^2_{SM}$, the semantic content of 'Superman' outside the scope of the new attitude verb introduced in (38).

In general, according to Frege, whenever an attitude verb is added to a sentence with a proper name, the name in the resulting sentence expresses a semantic content that is a mode of presentation of the semantic content of the name outside the newly added attitude verb. As a result, with each new addition of an attitude verb, the name changes its semantic content (and referent). Given how English works, we can always add an attitude verb to a sentence with an attitude verb. Thus, in Frege's theory each name expresses an infinite number of semantic contents (and have infinitely many referents), and no finite being can learn English and be a competent speaker in the sense explained.

This problem does not appear in my view. To understand 'Superman' in (2), (7), (38), etc. a speaker only needs to know its referent.[45] Its cognitive content might change, and so 'Superman' might have infinitely many modes of presentation: the mode of presentation for Lois Lane, the mode of presentation for Jonathan, the mode of presentation Jonathan takes to be the mode of presentation for Lois Lane, the mode of presentation Lois Lane takes to be the mode of presentation for Jonathan, etc. But a competent speaker does not need

[45] What exactly the conditions to have this knowledge are is the topic of a heated discussion that I will not go into details here.

to know all cognitive contents to understand the semantic content of sentences that has the name 'Superman' because I have given up the Traditional Claim. So despite changes in the cognitive content, the name 'Superman' has a finite semantic content that can be grasped by finite beings, and used to get to the semantic content of complex expressions of which it is part.

Objection 3 One might also think that the account I developed here seems *ad hoc*. For each case I offer a different explanation of the truth-value of belief ascriptions carefully crafted in a way to avoid problems in the case.

Reply: It is true that the explanation of the truth-value of belief ascriptions seems particularist in this sense. But it is only to reflect differences in our evaluative interests, which is why the account is not *ad hoc*. As I explained in Section 4.4.1, the idea of distinguishing worldly conditions from evaluative perspectives and states of affairs was initially proposed to account for the truth-value of sentence with predicates not related with cognitive attitudes. I then extended this notion to get an account of the semantic and cognitive content that respects our most basic intuitions of the semantic and cognitive contents of names. If anything, the fact that the initial idea can be expanded to explain our intuitions about the truth-value of belief reports respecting our basic intuitions (semantic and cognitive) should be another reason to believe that it is not an *ad hoc* solution to the problem discussed by Predelli (and

others) or to the puzzles involving proper names. Rather, it seems to suggest that the phenomenon it is tracking is generalized.

Objection 4 Evaluative interests can be described very generally or very specifically. For instance, the evaluative interest I proposed in the Fire Case was "the cognitive content associated with the sentence 'Superman flies' " and "the cognitive content associated with the sentence 'Clark Kent flies' ". But, it seems that given the description of the case, one could have described the evaluative interest more generally, like "the cognitive content associated with the sentence within the scope of the belief-clause". If this is true, then we actually have a contradiction. From this perspective f'' we have a state of affairs $s_{f''}$ in which Lois Lane believes that Superman flies – because the cognitive content of (2) for her is in her belief box – and she does not believe that Clark Kent flies – because the cognitive content of (5) for her is not in her belief box. Thus, (7) is true and (8) is false in $s_{f''}$.

Reply: The contradiction we get from f'' is artificial because we still evaluate (7) and (8) from two different parameters. F'' contains the definite description 'the sentence within the scope of the belief-clause' which designates different sentences depending on the sentence under evaluation. When evaluating (7) from this general perspective 'the cognitive content associated with the sentence within the scope of the belief-clause", we take into consideration

the cognitive content associated with (2). And when evaluating (8), we take into consideration the cognitive content associated with (5).

I suppose there could be different descriptions at the same level of specificity (unlike the objection here), but, if I am right, this difference would be irrelevant. If we have two different descriptions of an evaluative perspective at the same level, they would cut the worldly conditions in the same way, that is, taking into consideration the same elements. In this case, we get the same evaluative perspective, the same state of affairs, and, consequently, the same truth-value.

Chapter 5

Final Remarks

The central thesis of this dissertation is that semantic content does not have to be the cognitive content. Philosophers seemed inclined to think it had because of reports of mental states, illustrated by belief reports. But in Chapter 4 I explained how we can correctly capture their truth-conditions in a way that does not assume the Traditional Claim.

Besides the "instrumental" advantage of dealing with the puzzles – which was my primary motivation to look for an alternative account for the relation between semantic and cognitive content –, my account has a broader advantage of being neutral in a discussion on the content of mental states. The fact that (7) and (41) are true (in the same state of affairs) does not entail we will find the same cognitive content in their respective belief box, even though they are *considered* the same from an evaluative perspective, which is why they are true in that state of affairs.

My proposed account is also neutral with respect to the nature of content

of mental states. It is an open question whether the content of certain mental states, like beliefs, have to be conceptual or not (in the form of images, maps, among others). Some philosophers argue that the content of beliefs are conceptual, and creatures who do not possess concepts do not have beliefs in the full sense. Their belief-like attitudes to nonconceptual contents are something else, like a *proto*-beliefs. Other philosophers argue that beliefs can have nonconceptual contents. In any case, if cognitive contents are semantic contents, then there is little room to report mental states whose contents are nonconceptual, since semantic content are conceptual (with the exception of proper names). In this case, (61) is false because, since Kripto does not possess the concept of 'blue' and 'pants', he cannot have a mental state the content of which involves those concepts.

(61) Kripto sees that Superman wears blue pants.

But if we distinguish between semantic and cognitive content, we will be able to truly report mental states with nonconceptual content, as well as those with conceptual content. With small adjustments to the proposed analysis of belief reports in Chapter 4, we have that (61) is true if, and only if, Kripto see that Superman wears blue pants. This state of affairs will be the case depending on whether whatever mental content Kripkto has in his seeing box, so to speak, consists in seeing that Superman wears blue pants from some evaluative perspective. And, if empirical evidence favors, Kripto can be of equal standing with Lois Lane regarding their mental state of seeing Superman wearing blue pants. In any case, whether Kripto's mental states are similar to Lois Lane's or not does not seem a question pertinent to semantic theories.

Thus, the fact that in my view does not rule this option out in principle is an advantage.

Appendix A

Mates's Problem

The relevant worldly conditions for the truth-value of (48) and (49) is represented by the figure below:

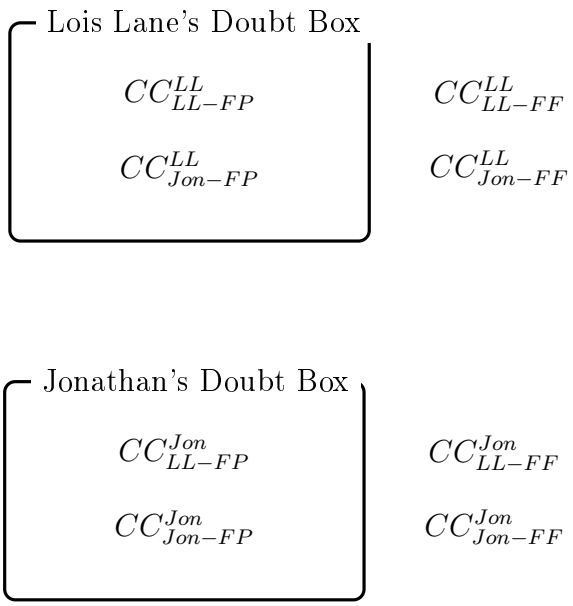

Figure A.1

such that 'CC^{LL}_{LL-FF}' and 'CC^{Jon}_{LL-FF}' are the cognitive content of (52) for Lois Lane and Jonathan, respectively:

(52) If Lois Lane believes that the seventh consulate of Marius lasted less than a fortnight, then she believes that the seventh consulate of Marius lasted less than a *fortnight*.

'CC^{LL}_{LL-FP}' and 'CC^{Jon}_{LL-FP}' are the cognitive content of (53) for Lois Lane and Jonathan, respectively:

(53) If Lois Lane believes that the seventh consulate of Marius lasted less than a fortnight, then she believes that the seventh consulate of Marius lasted less than a *period of fourteen (consecutive) days*.

'CC^{LL}_{Jon-FF}' and 'CC^{Jon}_{Jon-FF}' are the cognitive content of (62) for Lois Lane and Jonathan, respectively:

(62) If Jonathan believes that the seventh consulate of Marius lasted less than a fortnight, then he believes that the seventh consulate of Marius lasted less than a *fortnight*.

'CC^{LL}_{Jon-FP}' and 'CC^{Jon}_{Jon-FP}' are the cognitive content of (63) for Lois Lane and Jonathan, respectively:

(63) If Jonathan believes that the seventh consulate of Marius lasted less than a fortnight, then he believes that the seventh consulate of Marius lasted less than a *period of fourteen (consecutive) days*.

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